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Shadows and Straws

MODERN PEOPLES are not much given to the worship of magic and the black arts. It may be a pity that this is so. Perhaps there were compensations that are denied to those whose faith has been transformed into the unconscious worship of other things. Take the word "guarantee," for example. One would have supposed that it had been worn threadbare, so common has become its use in advertisement, yet now and then we are reminded that the desire for faith in magic has not altogether faded from the human mind, for the promise of a guarantee still casts the spell that once was associated with the alchemist, the witch, and the medicine-man.

Mr. Walker, writing in the *Architectural Review,* dismisses the Building Trades Guilds of England with the somewhat contemptuous remark that they give no "guarantee." This is quite true. On the other hand, for purposes of accuracy, it should be mentioned that their faithful performance is insured, in part, at least to the satisfaction of the Ministry of Health, and it seems undeniable that they are building cheaper and better than in the old way. However, considerations of a financial "guarantee" aside, is not architecture, for example, quite as likely to prosper under the influence of a moral concept, as under the handcuffs of a legalized guarantee? If any industry in the world is today in a more deplorable situation, under the guarantee system, than the building business, it would be hard to find it.

AS TO THE CRIMES of the guarantee, read the testimony wormed from reluctant contractors in the recent investigation of the building industry in New York City. Mr. Robertson, for example, guarantees (we suppose) the Cunard Company, under a cost plus contract. Brindell, the trades union autocrat, guarantees Mr. Robertson against a strike, for the trifle of $50,000.00, carelessly left, in varying sums, on the seat of Brindell's automobile. Back of Brindell are the rest of the guarantees distributed in sums which correspond to the importance of the guarantor—the politicians ranking high, very likely, as everyone supposes, since it is inconceivable that a situation such as has existed in New York City could possibly develop without the guarantee of that power which reaches far and wide, under our system of government. And these guarantees, despicable and immoral as they are, still depend upon a moral concept for their keeping—the concept of obligation to keep a promise. It is a curious state of affairs, this sense of honor among thieves, but it is a rather sinister augury for the guarantee, as we discover into what offices guaranteed thievery has crept. In business, the guarantee went by the board, in the last stress of falling prices, as snow before a summer sun. The *Saturday Evening Post,* which surely may be regarded as the champion of American business men and their methods, laments bitterly over the breaking down of moral standards as evidenced by the wholesale cancellation of contracts in the last episode of the deflation process. The New York *Times,* quite as ardent as the *Post* in its championship, baldly announces, in headlines that must have cost a desperate sigh, that there are "Less Morals In Business—New York Bankers Frankly Say There Has Been a Slump in Ethics." The headline writer was more comic than he guessed, of course, and these citations are not adduced in order to enlarge the indictment they convey. They are quoted more by way of revealing the strangely forgotten fact that guarantees do not guarantee, even though they be legal contracts.

THE ENGLISH Building Trades Guilds have adventured under a new principle. They will not work for a profit. One may ridicule them and seek to laugh them out of court, if one wills, but the fact remains that they have adopted the one principle which is likely to give any essential promise of good workmanship and an honest result. In spite of all obstacles, natural and contrived, they seem to be building at less cost than under private contract, and so far, none of them have defaulted, nor have there been complaints that their work was not up to the agreed standard. It is even reported by impartial authorities that they are building better, but the test of that statement lies in the future.

Perhaps it is not wise—and certainly it is not fair—to speak contemptuously of a group of men actuated by

the very highest motives—the motives of the professional man, who puts service ahead of the reward. The Institute's Canons of Ethics say that "It is unprofessional for an architect to guarantee an estimate or contract by bond or otherwise." If the Guildsmen conceive their work as a professional service to be discharged in the best interest of the common welfare, why should they give a guarantee other than that morally implied in their own canons of ethics? Is it not about time to imagine that perhaps the moral concept is the best one, when all is said and done? Is it not upon the morality of the architect that the client must rely? And who shall say that the morals of Guildsmen are not as trustworthy as those of architects? And last of all, why does the American Institute of Architects tell its members that it is unprofessional to guarantee costs? Because it knows that the professional spirit cannot survive when men become interested in protecting their own guarantee rather than in truly serving those who trust them. For my part, I say God speed to the Guildsmen, whatever may be the end of their adventure, for they carry, to my mind, the one banner which points the way to anything worth while in this sorry world of ceaseless combat over prices and profits, with its endless and fruitless efforts to legalize and guarantee that which can never come to rest except upon the plain and simple base of individual morality—or, in the building industry, the honor of the craft.

IN THIS number of THE JOURNAL there are illustrations of stage settings, perhaps the most useful digression, of which field Mr. Magonigle writes so alluringly, into which an architect could venture. What other offers so fine an opportunity for the study of scale, for example? And coincidently, where is a greater skill in decoration required? True it is, that there are many opinions on the subject of the stage setting itself. Too many, perhaps, since "The play's the thing," after all, and the futility of much of the stage setting talk is a good deal of a bore. For in this, as in all other things, there are no final ultimate absolute standards—for which, thank Heaven—just as there are no finalities in the interpretation of "Tristan," or the "Heldenleben" or the "Pathetique" or the "Eroica," or for Hamlet, or King Lear, or Othello. The very immensity of these imaginings makes it possible for new minds constantly to be discovering, interpreting, revealing, and it is even so with the designer of stage settings. Only let him beware of the pit that modern artists too easily dig for their fellows. We do not go to see stage settings, but to see a play. We do not go to hear Toscanini, or Bodansky, but to hear Wagner; or to hear Stransky or Stokowsky, but to hear Beethoven, Schubert, or Tchaikowsky—or to hear Caruso, Farrar, Sembach, Ruffo, or Muratore, but to hear Massenet, Puccini, Verdi, or Wolfe-Ferrara. Or, do we really go for the other reason? Have we been educated, at last, by endless newspaper adulation, and clever publicity, to go because of the performer rather than because of the thing performed? That is the pit that modern artists dig for each other. For to be willing to submerge one's work and one's indentity in order that the greatness of a complete work of art may not be obscured is to attain the heights of Parnassus indeed.

Thus the architect in his studies of stage settings is brought into intimate contact with the conceived idea of another. Temptation at once assails him and suggests that he may win for himself a passing plaudit, by being unique, or bizarre, or stern, or comic, or anything one wills. But to study the play and by its success to rise or fall, is the test of all those who seek to help in the interpretation of the drama. Perhaps one of the reasons why we now have so little that is really great, on our stage, is because of this ceaseless competition for the public eye, whereby actor, manager, and designer compete with and against both the play and the playwright—where vanity and the "star" system have slowly combined to produce a public palate which has more and more to be tickled with the single artist rather than with the composite harmony of a great work of art. Hero-worship is thrilling, but it leaves a jaded appetite.

YET THE TRUE field of stage setting has much to recommend it for exploration by architects. Rightly studied it might produce that kind of humility which would end the present inharmonious settings of our streets and towns, by teaching architects to efface their wish for solitary triumph and substitute that larger desire for an ordered and harmonious environment. Our world is a stage, after all, largely set in architectural ugliness, if we look closely at it, and that seems such a pity. Moreover—and perhaps most of all—architects need much to learn how to play. Architecture suffers from being taken too seriously. We cannot possibly keep up the pace that the apostles of education would set. There must be breathing places. Resting spots we must have. And where for rest and change do we turn, from our unremembered infancy on, except to the joyous world of Make Believe. There lies the only pure freedom that man knows.

And by the way, is it not very likely that architecture was born out of the love of a primitive people for make-believe? And is it not, for that reason, quite as likely to languish in a world which adores actualities and believes in guarantees?

REGISTRATION is very ably discussed in this issue by Mr. Emery Stanford Hall, who also illuminates the new method proposed for granting reciprocal privileges to architects who wish to practice in a state other than their own. Mr. Waid writes about the proposed new joint law for engineers and architects in the State of Minnesota, to several of the provisions of which he takes exceptions.

C. H. W.

The Digressionists

WE HAVE been informed upon unimpeachable authority that the way of the transgressor is hard. Not so that of the Digressor, which, while hedged about with dread, lies level and smiling, flower strewn. The footpad Duty, ready with his "Stand and deliver" lies in wait for him in vain upon the highroad of the professional career whilst he, lingering in bypaths of dalliance with Muses not his own, unbusked, unbraced, the vigilant sinews of hours of business all relaxed, treads the flowery meads of Digression. He knows the fearful pleasures of the moment stolen from a busy day in a rightful, perchance even gainful, occupation. And too, he knows the open joy of those rare times when, unafraid and unashamed, mounted upon his hobby he ambles or canters or madly gallops as his spirit prompts. We may not conceive him as entirely freed from certain preoccupations with the stirrings of conscience—if we do it is only because he has succeeded for a moment in escaping from her thralldom (if Conscience may indeed be figured as feminine) for he like other men of our day and land are heritors of the Puritan tradition if not of that chilly ichor which coursed in Pilgrim veins and which has provided refrigeration for the things of the spirit for these many generations—not to keep them fresh alas! but to freeze them into inaction, to cool young impulse. For Puritan blood is liquid, if it be not fluid, Conscience, and Conscience doth make cowards of us all. Mr. Grundy and his wife and progeny weigh upon our minds. We fear they will not regard us as Serious People. They would have us look with sad and steadfast eyes upon the goal *they* have in view, the ideals of conduct *they* have erected for themselves and hence for all right-minded, high-souled creatures. They are the groove cutters for the world and woe unto him found out of the groove appointed. And the Digressor more than half of his precious time digresses with a lively apprehensive sense of the policemanic hand of the tribe hovering about the nape of his neck ready to pluck him back to the serious business of life as understood and appointed by the *Famille Grundy*. If then we take our courage in our hands and digress in their very teeth it is with a defiant carriage of the head, a touch of bravado in the flourish of the tail, that in themselves betray the essential fear which haunts us. The age demands the specialist and a narrow allegiance in a narrow field. You are an honest poet and would fain be cobbler also. "Nay! friend," says Mr. Grundy, "we have all our cobbling done by specialists in the business. I fear you are not a serious person. If you wish to retain our good opinion you will not venture out of the field of poetry. Versatility is the infallible sign of the frivolous."

So waylaid, so herded, so inhibited, it is little to be wondered at that the solitary Digressor should go in fear and trembling, hiding his joy and pride as a shameful lapse from the normal. Nor that if two or three such should encounter each other in the course of the stealthy operation of their questionable impulses, they should be drawn together by that sense of the safety which lies in numbers, organize for their greater security and peace and seek out others of like mind to join their fellowship. This is at least the plausible explanation of the foundation of the Digressionists, a body without a constitution (although remarkably vigorous for its twelve short years) but with a Chief Digressor of annual election who struts his brief hour and then is seen no more in that high place for another five and twenty years. Of course the secret official account of the nativity, written almost in the very hour of labor, unhappily savors of that defiant bearing to which reference has been made; it is pretended (and the mere fact that one may now quite openly give names and dates, provides a measure of the growth of courage by contact) it is, I repeat, pretended that upon a day in the springtime of nineteen hundred and eight, three men, to wit, James Monroe Hewlett, Charles Ewing and Grosvenor Atterbury took open counsel together and plotted for the flouting and discomfiture of Mr. and Mrs. Grundy and all their works. They declared for a restriction of membership to architects in number not above twenty-five and their qualifications to be besides that of unanimous approval as one of the twenty-five best fellows in the world, that they should during each year abjure and forswear for a space their chosen profession, and paint or fiddle, play or sing, etch or write or model or otherwise digress; that their digressions should be annually exhibited upon pain of being cast out into Grundy's bosom; that they should be judged, not by a jury of their peers but of those deemed their superiors by virtue of their being open and professed practitioners of the Digressive arts; that a medal of bronze should be awarded each year for the most worthy digression but that until some other Digressionist should have developed sufficient strength to wrest it from him the medal should be given for the first seven years to James Monroe Hewlett; and last and not least that they would adopt as their emblem the Flying Fish as best expressive of the furtive life of the Digressionist—a periodical emergence into an element not his own. This last provision is a politic rather than a base concession to public opinion—for your true Digressor in his heart regards all elements as his.

The Digressor admires the severe fibre of him who keeps within his banks, cutting his channel deeper year by year, gurgling to himself profoundly in his depths, his eye fixed on Plumbing or Professional Practice or Plans for Housing the Poor. But at the risk of seem-

ing shallow, your Digressor, brimming with the abundance of his fancy, his spirit refusing to be confined, spreads abroad in a wide and sympathetic flood, reflects the sky and lets the breeze of heaven play upon his bosom. With such wide horizons, with there a mountain peak, here smiling uplands and the breath and beckon of forests, the beacon lights of Plumbing fail of allure as goal or guide posts. How shall it profit a man to follow forever paths appointed—like the roads of China worn by the feet of millions from the level of the plain to deep and dusty ravines—snuffing up the dust of his predecessors with a passionate, nay, religious exaltation, nourished and sustained by the meagre spiritual diet to be extracted from conformity.

No sight is more sad than the lapse of a Digressionist. When the scent of the flesh-pots comes over the wide waters, when old Material Prosperity waves her golden platter, his grieved companions watch him trim his sails, make the channel and vanish from their ken. The pious Bunyan saw, in a vision, Life as a bridge of such perilously, even criminally, flimsy construction that there were many Gaps in the Footway through which at his appointed Time the Wayfarer fell and was whirled away by the River of Death. Such Gaps for the Faithless were provided in the unwritten law of the Digressionists and any Bunyan safe ashore might have marked the thinning of the Ranks, heard the far faint cries of Regret as one by one the Waters of Oblivion took their Own again. And thus it were invidious to reveal the original roll of membership or note the changes time has wrought. Suffice it to say that those who so far have stepped warily and so survived and those who have taken the places of the lost are, in this year of grace nineteen hundred and twenty, Frederick L. Ackerman, Chester H. Aldrich, Grosvenor Atterbury, John P. Benson, William W. Bosworth, George S. Chappell, John Cross, William A. Delano, Charles Ewing, Howard Greenley, Bertram G. Goodhue, J. Monroe Hewlett, Frederick C. Hirons, Frank H. Holden, Edward T. Howes, Austin W. Lord, H. Van Buren Magonigle, J. Layng Mills, Robert Burnside Potter, Edward L. Tilton, John Almy Tompkins, Alexander B. Trowbridge, Breck Trowbridge, Ernest Tyler, Arthur Ware. Once a year they meet and dine and exhibit their digressions to show their faith in the virtue that lies in doing something else. Once a year George Chappell sings his immortal songs and tells his immemorial stories. Once a year John Benson repeats what he can remember of the roaring sea ballad he wrote upon a time, and Potter, astromoner and poet, scales the empyrean and tells us what he there beholds, Aldrich, Atterbury, and Trowbridge discourse more or less sweet music. Once a year they all, *ventre à terre,* course in pursuit of the prize. And once a year the god of the Grundys, Duty, footpad ashore, pirate afloat, lurks behind the headland while the little shallop Digression, manned by her trusty crew and loaded to the guards with booty, slips by in a cloud of flying fish, unperceived.

H. Van Buren Magonigle.

The Blot on the Escutcheon—IV

By FREDERICK L. ACKERMAN

SINCE THE last writing, the Courts of Law have been busily engaged in sifting some of the matter brought to light by the Lockwood Committee Investigation. Some trivial fines, as viewed by the reporter, have been imposed upon a few of those engaged in the building industry who, mistaking it for the building business, worked together to defeat the primary end of industry which is producing goods for those who actually need them. These trivial fines, like numerous other matters, again serve to puzzle the reporter. Presumably they represent but a very small fraction of the financial gains derived from obstructive action by the building business men. No doubt they serve, in a small way, to reimburse the State for the expense of carrying on the investigation and the prosecution—every little bit helps. But no great stigma is attached to anyone for being fined. And so the fines stand as a sort of surtax upon income derived from a form of business enterprise which apparently has nothing more than a faint tinge of illegality about it.

The trial of Brindell is now over; some little glints of light are being shed daily upon the modern ways of the Modern Business Agent and the Modern Master Builder. But all of this has to do with doings of the enterprising obstructionists already discussed.

With the Happy New Year came the effort of the Lockwood Committee to have its powers extended so that it might continue upon its way of investigation. Mr. Untermyer wanted to pry into the purely financial phases of the building business. At present it does not appear that the Legislature will grant this authority; chances stand at about one thousand to one. There is a vast amount of publicity concerning an "invisible lobby" working at Albany to head off the granting of such powers to the Lockwood Committee. There may or there may not be such a lobby; the reporter knows nothing about it. But he knows that what might be revealed by such an inquiry stands clearly revealed without any inquiry whatsoever. One may get at it from reading the financial sections of our daily newspapers; or by holding a mirror up to his own attitude when he contemplates going into a promising financial "deal." Possibly this "invisible lobby" is nothing more than our Point of View as reflected by our legislative body.

Maybe we don't want the matter of investment for a profit looked into; it might reveal how we came by our vested interests. It may be that we prefer not to know.

But, after all, we know that financial business is an impersonal matter—a matter of making money. We also know that the advancement of financial credit is the grant of a privilege. It affords the borrower a differential advantage in bidding against other business men for the control and use of industrial processes and materials. We know that credit is used where its use promises the largest return to the borower in terms of price. I say in terms of price—not in terms of useful or needed goods. The production of useful or needed goods is a matter of industrial activity and not financial manipulation.

So the question arises: why in the world should we investigate our financial institutions? Can it be that we expect to find them engaged in lending money to the lowest bidder? Do we assume that they are doing other than that for which they were created? Surely we cannot hold our financial institutions guilty for doing that which was so clearly set forth in their charters granted by the State. Surely they are not to blame for not advnacing credit to those who don't want it because it would not pay them to use it—simply because someone needed this or that badly. All this again is a matter of busying ourselves about investigating the notorious.

Everyone with a trace of gray matter knows that the conditions under which credit is advanced with respect to housing are not in the slightest degree affected by the need for housing. (Here the reporter notes the reader shaking his head—but the reporter would call attention to the state of affairs throughout that part of the world where modern culture and the modern industrial system had had time to demonstrate its true worth). To proceed: Under the rules of business enterprise it should be a sign of mental sclerosis to advocate the idea that loan credit be advanced with respect to actual need.

The conditions under which loans are advanced for houses are fixed by other totally unrelated circumstances. What settles the question of an advance of credit for housing is the urgency of the demand for credit on the part of nations who very likely cannot pay; or for the development of this or that speculation in Mexico or Mesopotamia; or for speculating at home; or for the beneficent purpose of withholding all sorts of greatly needed goods from the market in order to sustain or advance prices.

It is said by those who are supposed to know that this matter turns upon the law of "supply and demand." But there is this curious and very significant thing about the "law of supply and demand:" It is a law which touches the pecuniary circumstances of the case only. Demand is not used in the sense of want or of need. What we mean when we use this phrase is *effective demand* or the ability to pay the price; the price is set at "all the traffic will bear;" and the price which measures all that the traffic will bear is nicely taken care of, in the typical case, by seeing to it that production (the supply) is so regulated as to keep the supply somewhat short of the actual need. And for the accomplishment of this, loan credit comes in to play its part. Advances of credit made with a view of holding goods in storage take care of this matter.

There is really little occasion for an investigation of the obvious. And yet, maybe, it would be worth while. For possibly the part that loan credit plays in shaping the conditions of the common welfare is not so obvious after all. Just suppose that we were to have an investigation into this matter of financial business; and suppose that the fact should be revealed that: "Funds of whatever character are a pecuniary fact, not an industrial one; they serve the distribution of the control of industry only, not its materially productive work." Then we would be confronted with the still more difficult question of what to do with this very disconcerting fact.

NOTE. Since the above was written, news comes of the sentencing of Brindell to a five to ten years' term in Sing Sing and that he will be arraigned on other charges; also of the imposing of fines upon others who carried on their business in restraint of trade or in such a manner as to interfere with the workings of the "law of supply and demand."

Coincident with this news there appeared another news item relating to the formation of an association with a view to "pooling" 400,000,000 pounds of surplus copper. The purpose of this pooling is to withdraw this copper from the market and hold it for export sales. The news items in reference to this pooling operation stated that the withdrawal of these 400,000,000 pounds of copper is to be made possible by the issurance of "debentures" underwritten by a syndicate of bankers and to bear interest at the rate of 8%.

The reporter does not know what to make out of these news items of a single day. It is so very difficult to tell what is restraint of trade, and what is sabotage, and what is not. Possibly it is all a matter of magnitude. On the face of the evidence it would seem that one may organize to restrain trade as much as one likes if the action to that end can be brought under cover of a loan of funds or the issuance of debentures. But even so, it is quite puzzling.

Architectural Education in England and France

THE CONFERENCE on Architectural Education, organised by the R.I.B.A. and the Société des Architectes diplômés, of which a full account appears in the *Journal of the R.I.B.A.* (from which we quote), was held at Paris Nov. 12 and 13, 1920, as part of a scheme for promoting cordial relations between architects in the two countries. Early in 1913 the Architectural Association of London organised an exhibition of selected drawings by students of the Ecole des Beaux-Arts, and a number of distinguished French architects then visited London. This event was followed, in 1914, by a representative exhibition of British architecture which aroused a considerable amount of interest, not only among architects, but among the general public. A number of British architects visited Paris on that occasion and were most hospitably received by their French confreres, and it was decided that there should be a further meeting in London at some date in the near future.

British architects present at the Paris Conference in November last included: Mr. John W. Simpson, President R.I.B.A., Mr. Paul Waterhouse, M.A., F.S.A., and Mr. W. G. Newton, M.A., M.C., Chairman and Hon. Secretary respectively of the Board of Architectural Education; Mr. Alexander N. Paterson, M.A., A.R.S.A., President of the Institute of Scottish Architects; Professor C. H. Reilly, M.A., Director of the School of Architecture, Liverpool University; Professor Patrick Abercrombie, Head of the Department of Civic Design Liverpool University; Mr. H. M. Robertson, S.A.D.G., Principal of the Architectural Association School of Architecture; and Mr. Arthur Davis, Founder of the London Ateliers. Mr. G. Gilbert Scott, A.R.A., President of the Architectural Association, who had arranged to attend, was prevented at the last moment by indisposition.

The first session of the Conference was held at the Ecole des Beaux-Arts on Friday, 12th November, when the following Papers were read in French:

"A Survey of Architectural Training at the Ecole Nationale et Spèciale des Beaux-Arts," by M. Jules Godefroy, Chef d'Atelier et Membre du Conseil Superieur de l'Enseignement de l'Ecole des Beaux-Arts.

"A Survey of the Scientific and Constructional Training at the Ecole des Beaux-Arts," by M. Arnaud, Professeur de Construction à l'Ecole des Beaux-Arts.

"The Relations between French and British Architects," by Mr. John W. Simpson, President R.I.B.A,

"Architectural Education in Great Britian," by Mr. Paul Waterhouse,

"The Architectural Association Day Schools," by Mr. Howard Robertson.

"The School of Architecture of the University of Liverpool," by Professor C. H. Reilly; read by Professor Patrick Abercrombie.

"The Position of Architectural Education in Scotland," by Mr. Alexander N. Paterson; read by Mr. Arthur Davis, who also gave a brief statement with regard to the London Atelier, of which he was the founder and first "Patron."

"The Study of Old Buildings," by Mr. Arthur Keen, *Hon. Secretary R.I.B.A.*, read by Lieut.-Colonel Cart de Lafontaine.

The paper read by Mr. Waterhouse was more or less retrospective in character, but it uncovers many milestones that are not without their lesson to the present generation. Said Mr. Waterhouse: Here in brief is our history. Up to the middle of the nineteenth century pupilage was the only way to the profession. Armed with his father's money, the would-be architect tapped, so to speak, at the door of one of the great ones (would that they always had been great ones!), and when once the young man was admitted, the process was simply one of "wait and see." In any case the master got his fee—in most cases, or at least in many, the pupil got his brass plate and was recognized as a professional man. Far be it from me to say that pupilage had not its good points. It certainly had them, but it had also its defects.

We owe it to the Royal Institute of British Architects that these defects—these dangers—were not overlooked. The Council saw that, even if the door to the professional was not an absolutely open door, it was a door without a key; and the first-fruits of their efforts to provide a key were, so to speak, the now almost forgotten Voluntary Examination which, besides merely passing (and ploughing), awarded "distinction" to those who reached a certain standard. In spite of the natural disgust which mankind feels towards examinations, the "Voluntary" was a moderate success; and though its "plough" was no bar to the Associateship (if indeed people were ploughed) it is at least a fact that those who in the year '63 successfully underwent the test were the first English architects who could claim that their entrance into the profession had some qualifying stamp. After all, the great value of the Voluntary was that it was the "thin edge of the wedge." The wedge itself began to make itself felt in 1882, when the Obligatory Examination came into force. The Institute had taken the step of deciding that the "Obligatory" was the sole way of entrance to the Associateship. By that time and by that decision the die was cast, and we know what came with the casting of the die. Architectural education thereupon became systematised. I am quite aware that architectural classes already existed in our colleges, that there were even professors of architecture, and that the school of the Royal Academy had already rejoiced the hearts of its creators. But it is true, incontestably true, that from that day the system of instruction in architecture became unified—too much unified, some will say; but are they fair?

What was at that time the obvious duty of the Institute as head of the profession? It was, as no one dare deny, to establish a standard; not a standard of excellence—for examinations can never ascend to the High Heaven of Art—but a standard of insufficiency of ignorance if you like (for ignorance and knowledge are but relative terms) below which the entrance should be definitely barred. And so it was that education became standardized and stabilized, and passed out of the hands of the former architect masters. Pupilage, as any one could have foreseen, was doomed and almost dead; and it is to the honor of those leaders of the profession who thus lost their gains that they were the leaders of the movement that destroyed the system. Let us at the same time shed a tear over pupilage. The contact with the realities of architecture afforded by a good office

gave the student something which he is at least in danger of losing under a scholastic and academic system. But the faults of pupilage outweighed its merits, and the architects of the past generation were wise as well as generous when they killed the goose that laid those golden eggs.

A word about crammers. Crammers or coaches sprang into birth with the advent of the Obligatory Examination, and naturally had to meet the suggestion that they stuffed their pupils with tabloid architecture which was to be discharged undigested on the day of the examination. One can only speak from experience, and I can only say of the instructor who crammed me that he was a first-rate teacher, and that he helped me to collect certain facts which have always been of use or of pleasure to my career as an architect. In any case, when people speak of crammers as an evil I am always inclined to answer that noxious crammers are, if they exist and prosper, a direct result of a bad examination system. If our examination, with its written and oral tests, cannot distinguish crammed knowledge from honest work, the fault lies with the examiners.

To return to history. Schools were started, schools flourished and schools grew. This establishment and growth prospered even more when the old Obligatory Examination gave way to out present three-fold system of progressive tests. This, as you know, took place in 1887, and there is no need for me to enter here into a description of those three examinations, the Preliminary, the Intermediate and the Final. The particulars which will be given by my English colleagues of the curriculum in the schools will make this plain and clear.

What I must allude to is the advent of the system of recognition. By a happy accident of language the French word for recognition means also gratitude, and if our French friends are led into thinking that by recognition we imply gratitude to the schools they will not be far wrong. It was in gratitude to these schools, which had reached a certain level of teaching, that the Institute granted them the privilege of exempting their pupils from our Intermediate Examination. The Institute, as we know, holds the reins as regards this exemption, retaining the power, through its external examiners, of withholding exemption from any particular pupils—or indeed from the whole school if the standard is not maintained. And as we know, there has arisen in quite recent days a most interesting development of the system of recognition—the granting to certain school of advanced curriculum exemption under well-defined conditions from the Final Examination itself, or at least from a very large part of it.

Is there not something significant in the change of title which out Board once underwent? The Board of Examiners became, you know, the Board of Architectural Education. The change certainly synchronised with a change of personnel which was enough to justify the alteration of appellation; but it has a wider significance. It proclaims to all the world what, after all, we all knew —that examination is only a humble tool in the hand of education. What we all seek after is the well-instructed architect. He is the aim. The way to get him is by education, and examination—which in itself is worth nothing—becomes as the gauge of education, as its stimulus, its encouragement and its test, a thing of value, a thing which is itself capable of infinite improvement, refinement, and—in some cases—of wise suppression.

The work of the Architectural Association Schools was described by Mr. Howard Robertson, Principal of the Schools, who said, in part, as follows:

The Architectural Association Schools have developed since 1901, during the period when pupilage was in vogue, and during the present epoch when the system is practically abandoned. It has, therefore, had to cope with the different conditions, and this has resulted in changes of method and a rather startling present-day growth. In addition to basic changes taking place in the system by which a student prepares for his ultimate professional work, there have been parallel developments as regards the Professional Societies and their Board of Architectural Education. These have been largely due to the strongly marked desire for a proper school training which would bring with it certificates of competency replacing the graded examinations in vogue during the "pupilage" period. The Architectural Association Schools have provided for this requirement by extending their course of studies so as to ensure a sound theoretical training, aiming at a standard rather higher than would be strictly necessary for the passing of the professional examinations. To secure this result, and so fit its students to become trained architects and potential wage-earners, is the aim of the school during its graduate and post-graduate courses, which, if fully followed, occupy a period of five school years.

It is realized that a good general education is a first requirement, and the school entrance examination is of such a standard as to ensure that the students have this, and that consequently they are entitled to exemption from the Preliminary Examination of the Royal Institute of British Architects. After admission to the school, the students enter the graduate course of three years, the first two of which are in the elementary and the third year in the advanced school. Successful fulfilment of the three years' tests entitles students to exemption from the R.I.B.A. Intermediate Examination, and the diploma granted at the termination of the further two years of post-graduate work brings with it exemption from the R.I.B.A. Final Examination.

The work carried out in each of the five years has been systematised so as to be carefully graduated and to arrange to give the best possible results for the average students and not with the idea of forcing and obtaining startling results from a favoured few. It is possible briefly to recapitulate the various years and the work done in each.

The First Year students study the elements of buildings both in their architecture and construction. They receive explanations of the *raison d'etre* of each element, these being synchronised with historical lectures showing the application of first principles. Geometry, perspective, freehand, sciography, and colour values, etc., are taught progressively, but pure design is only studied sufficiently to form a basis for construction. The lessons learned in technique and theory are finally applied during each of the three terms in the execution of classic detail such as the Orders.

In the Second Year the students specialise in portions of the practical and theoretical instruction given. More complex details of construction are studied and architectural design progresses based on historical periods—at first, compositions based on elements of the best examples of the principal periods, and, finally, original designs inspired by historical styles. Courses of lectures on history decoration, construction, and the theory of design continue throughout all the years in the graduate course, and are synchronised with the practical work in the studios, while freehand and drawing are, of course, also studied.

The Third Year allows increased scope for design, there being no restriction to periods or styles, and construction is more advanced, working drawings being prepared with the design subjects as a basis. Twelve hour studies in design are frequent, and the teaching of composition in mass and detail occupies a proportionately larger time than in the second year. Design and construction are taken as one subject and not dissociated, and every effort is made to fit students for the commencement of outside work in architects' offices which will follow during the post-graduate course. A strong feature of the English architectural student has always been his attention to measured work and outdoor sketching, and every encouragement is given for the prosecution of these during the holidays.

In the Fourth and Fifth Years, forming the post-graduate courses, the curriculum is arranged to provide further training to an enhanced standard and incidentally to satisfy the Board of Architectural Education. The time spent is almost evenly divided between advanced design and construction, with the addition in the Fifth Year of special subjects, such as "Decoration" or "Town Planning." It is also required that the students show proof of at least six months' experience in practical building work either during or after these years, before the final diploma is granted.

In addition to the five years' day course described, the Association provides an evening atelier for design and life drawing, to furnish proper educational facilities for those unable to attend the day school.

An interesting feature of the schools is the increasing number of female students, there being at present 27 out of a general total of over 200 in the day schools.

A word must be said regarding the spirit animating the staff in the teaching of design. In England there is no architectural teaching tradition as in France, and this has resulted in the past in a lack of sequence in method, but has given scope for the formation of a new teaching tradition which adapts the best methods of sister school, however modified to suit the English temperament and English architectural needs. In the Association Schools acknowledgement is made to France for the training given in theory of design and composition; and from America much has been learned regarding the general organization of the educational scheme. The school aims, however, at forming future architects who will have at their command a thorough theoretical and technical equipment, to be used not necessarily for the furtherance of one particular style or manner in architectural design, but rather as a basis for the satisfactory solution of the ever-changing problems confronting the architects of to-day and of the future.

Over the Coffee and Cigars

The Supreme Court Judge was very genial. It was after dinner and the ladies having retired the men were willing to listen to his reminisences of interesting cases over which he had presided. The company included a college professor, two attorneys, a physician, and an architect. The Judge had just finished telling about a matter in which the Appellate division decided a case on the basis of public policy rather than that of law, which the Court of Appeals promptly reversed! So the discussion naturally turned on the traditional points of view of law as against morals, at which point the architect broke in with a question: "Judge, I wish you would tell me why you think it is to the credit of your profession that one of the most distinguished attorneys in the United States should plead in a professional matter in a manner so shocking to the moral sense as when, about a year ago, he argued an appeal before the Board of Directors of the American Institute of Architects for a member who was threatened with expulsion? He claimed in his argument that it was proven that his client had consulted an attorney before committing the act which was charged as unprofessional and that the attorney had told him he was within his rights to act in that way. 'Now,' said the distinguished counsel at the appeal, 'I hold that when a professional man in good faith seeks advice of counsel and follows that advice in good faith, he cannot be held by any professional body to have violated his professional obligation.'"

The Judge smiled. "What happened after this plea?" he asked. "His expulsion was unanimously confirmed," was the reply, at which the Judge waved his hand as much as to say, "Well you didn't take the the attorney's plea seriously," and the college professor said something to the effect that "Why shouldn't a lawyer plead anything that would help his client?"

"Do all reputable architects belong to the American Institute," said His Honor, "Well, hardly," the architect began, but one of the attorneys broke in with "What you can say, Judge, is that none belong who are not reputable."

"By the way," said the Professor, "what about the Lockwood Investigation and the architects, how did that come out?" "Oh, that was perfect rubbish," said the architect; "to attempt to show that we were a trust keeping the young men out of practice and fixing prices! Why, the streets are full of poor devils of architects willing to work for two or three per cent or a suit of clothes." "Surely," said the learned Judge in his most dignified black robe style, "We must admit that the architects' six per cent fee is recognized only as being the maximum amount that he may collect from an owner when no definite agreement has been made in advance. It is to that extent a protection to the owner." The company nodded and the architect grinned his assent. R. D. K.

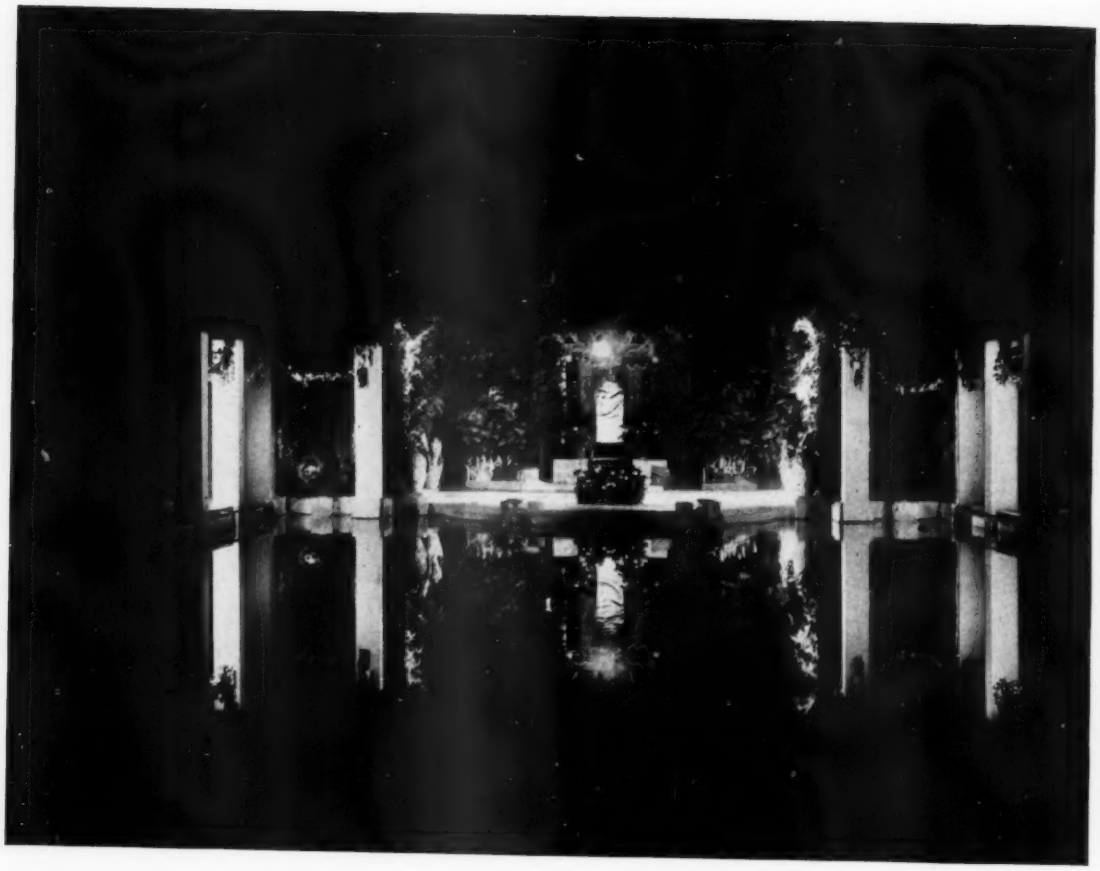
JOURNAL Back Numbers

Subscribers desiring to complete their files are reminded that many issues of THE JOURNAL are already out of print. Those having back numbers for sale are requested to advise us without delay.

LORD AND LADY ALGY: William Faversham's Production, 1919–20. Tableau—The unmasking of Lord Algy and Tudway. Designed by Howard Greenley

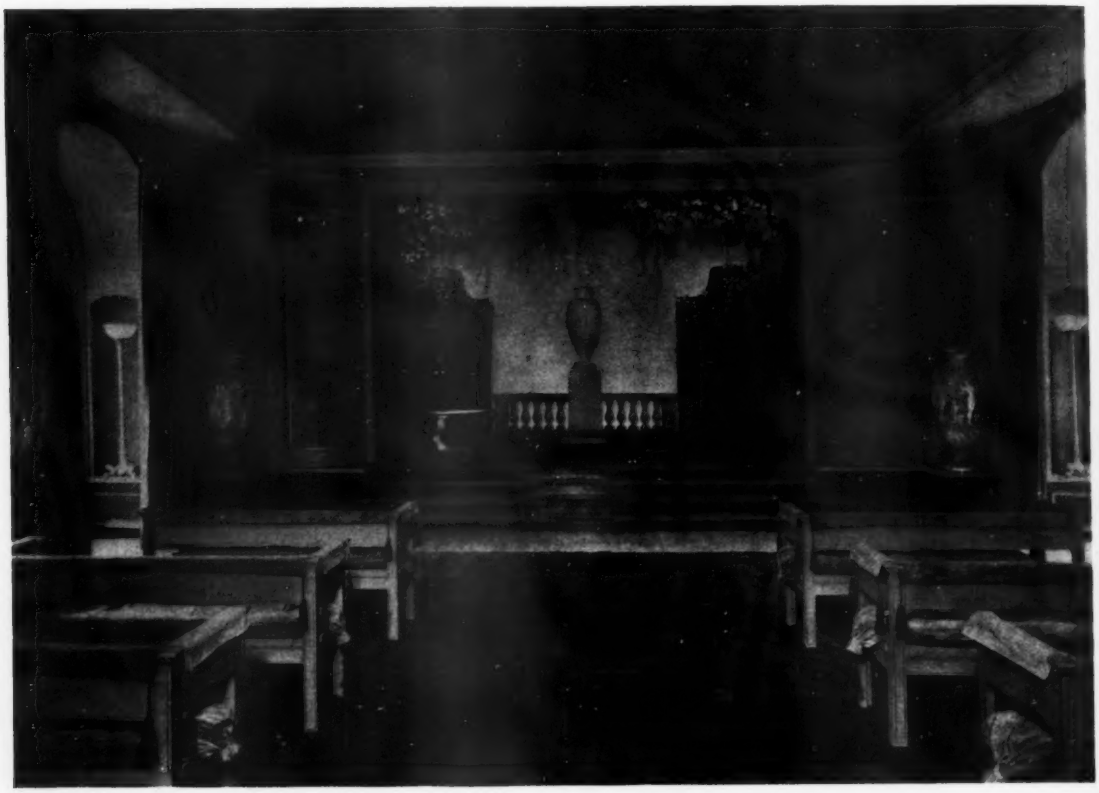
A Watteau Picture: Designed by J. Monroe Hewlett

A Watteau Picture: Designed by J. Monroe Hewlett



NOCTURNE: A Persian fantasy. Written, designed and produced by Howard Greenley

NOCTURNE: A Persian fantasy. Written, designed and produced by Howard Greenley



BETWEEN TWO RAYS OF MOONLIGHT: Theatre and stage setting designed by Howard Greenley

BETWEEN TWO RAYS OF MOONLIGHT: Setting designed by Howard Greenley

THE DOOR: Tragedy in one act, by Mildred Cram. Produced at the Garden Theatre, New York City, April 1918, by the Comedy Club. Setting designed by Howard Greenley

Le Brun Scholarship Competition, 1920-21

IN THE Le Brun Scholarship Competition for 1920–21, conducted by the New York Chapter A. I. A., the Jury has made the following awards:

Traveling Scholar, Oliver Reagan, New York City.

First Honorable Mention, Robbins L. Conn, New York City.

Second Honorable Mention, Edward S. Lacosta, New York City.

Third Honorable Mention, Charles J. Irwin, Brooklyn, N. Y.

The following men, whose names are given alphabetically, were mentioned by the jury for the excellence of their work: Howard Stanley Atkinson, Philadelphia, Pa.; John S. Burrell, New York City; Louis Fentnor, New York City; J. Harold Geisel, Philadelphia, Pa.; Owen L. Gowman, New York City; Carl W. Lason, Boston, Mass.; Benjamin Moscowitz, New York City; John G. Schuhmann, New York City; Edgar F. Stoeckel, New York City.

The interest in the Competition was very gratifying, forty-one sets of drawings being presented, representing thirteen states, widely distributed throughout the country.

Committee: Charles Butler, Ernest Greene, R. H. Hunt, William M. Kendall, Louis Ayres, Chairman.

SCHOLARSHIP AWARD—Oliver Reagan

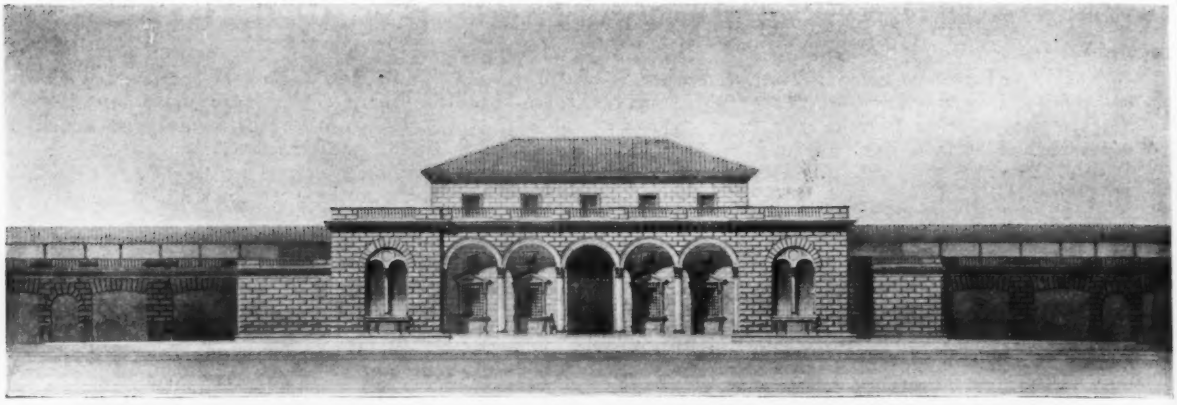
Under the terms of the Scholarship, fourteen hundred dollars is paid to the successful competitor who binds himself to take a European trip of at least six months and to devote well and truly that length of time to travel and the study of architecture otherwise than entering any school or atelier or attending lectures, it being intended that the benefit derived from this traveling scholarship shall supplement school or office experience. He must leave before March 1, 1921, unless otherwise agreed with the Executive Committee and his proposed route must be approved by them.

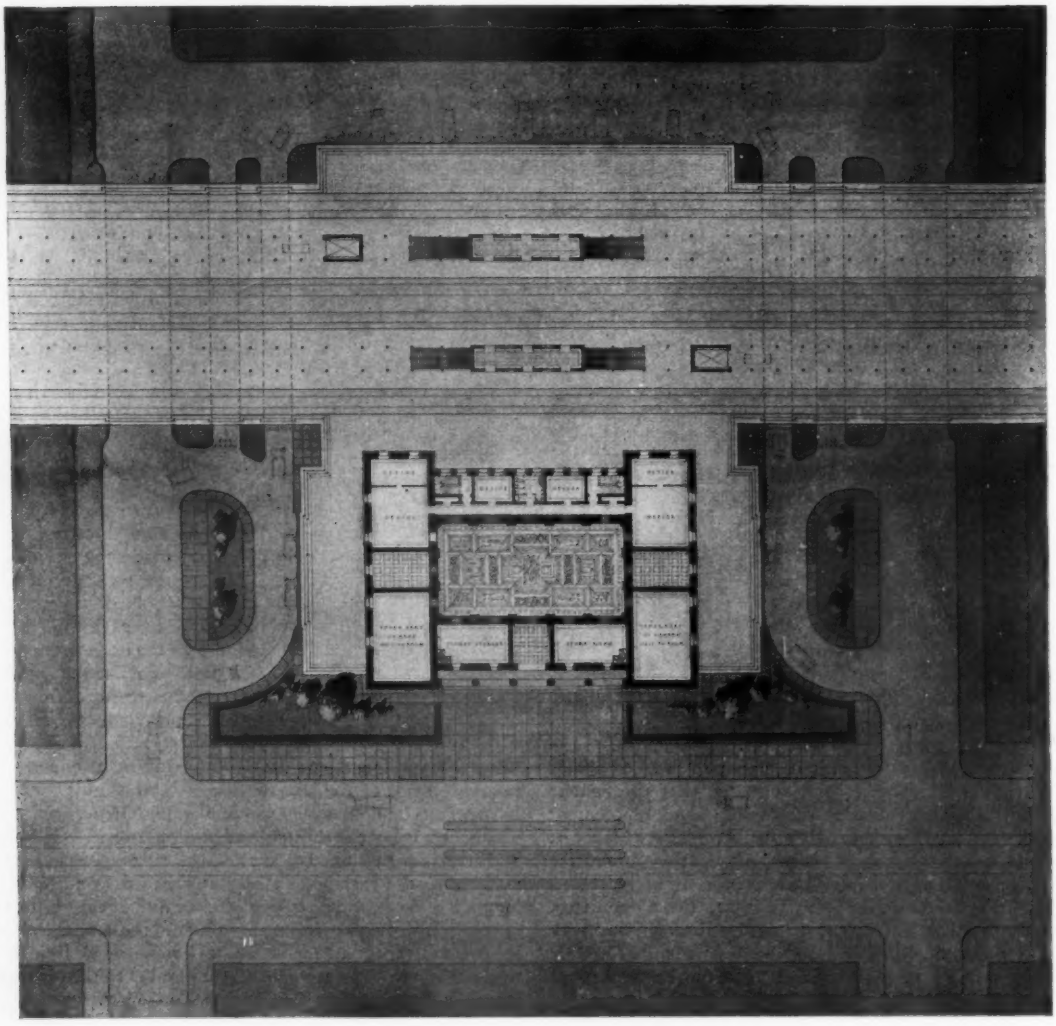
In setting the problem for 1920–21, the Committee, desiring to follow the intent of the Deed of Gift by presenting a practical problem and one which comes under the observation of many communities in various parts of the United States, selected the following program:

The main line of an important railroad, passing through approximately the center of a prosperous manufacturing city of from one hundred to one hundred and fifty thousand population, is about to raise its tracks, allowing the crossing streets to pass under them, the problem being the planning and designing of the passenger station with its appurtenances and surroundings.

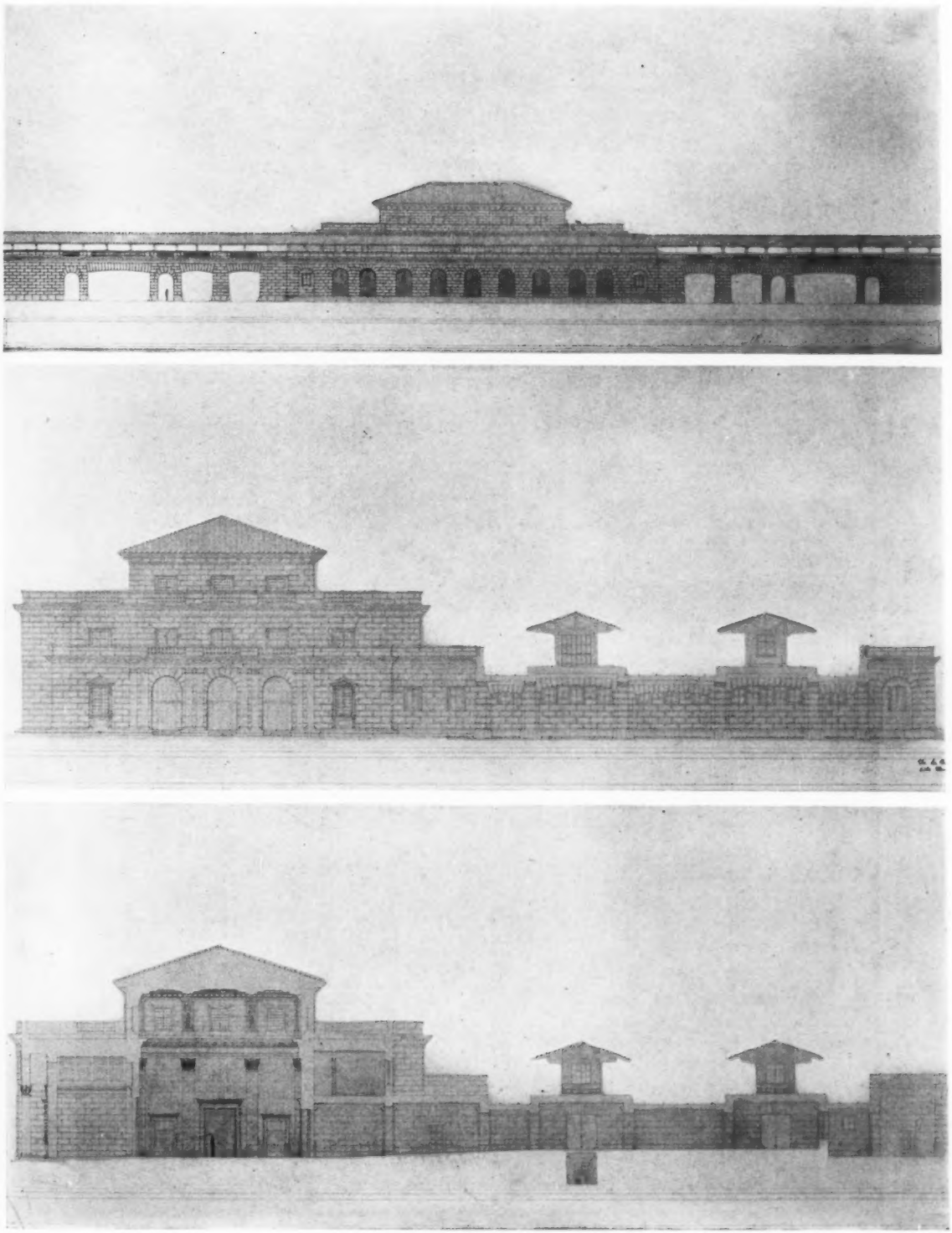
It is supposed that the city is a growing one with a proper municipal pride in the esthetic quality of its public buildings, parks and streets, and the railroad company is proposing that the new station shall be as well planned and designed and of as enduring and pleasing material as any of the city's public buildings. The size, materials, type of architecture, etc., are left entirely to each competitor who may, if he wishes, accompany his drawings with a brief typewritten statement (also signed) setting forth the argument for his scheme. If he so choose, he may locate the city in some particular region of this country and develop his scheme and selection of materials to suit and express the climatic or other general conditions of the region.

It is assumed (though not at all obligatory) that the principal public functions will be near the level of the streets and that stairways or ramps will lead up to the platforms and shelters between the tracks, that the problem involves the possible utilization in whole or in part of the space beneath the tracks as well as the open portion of the plot. The drawings must show the entire structure, including the viaducts crossing the two streets and the side away from the main approach to the station, as one of the main problems of the general design is to combine into a harmonious and pleasing whole the two structures, the viaduct carrying the railroad and station proper. The site and streets are assumed as flat and the accompanying plot plan shows the spacing of tracks and the size of platforms, location of tracks on plot, size of same and of the abutting streets. The two streets passing under the tracks are of lesser importance but traffic will, of course, come by them to the station. The 100-foot street parallel to the railroad is the main approach and on it there is a trolley.

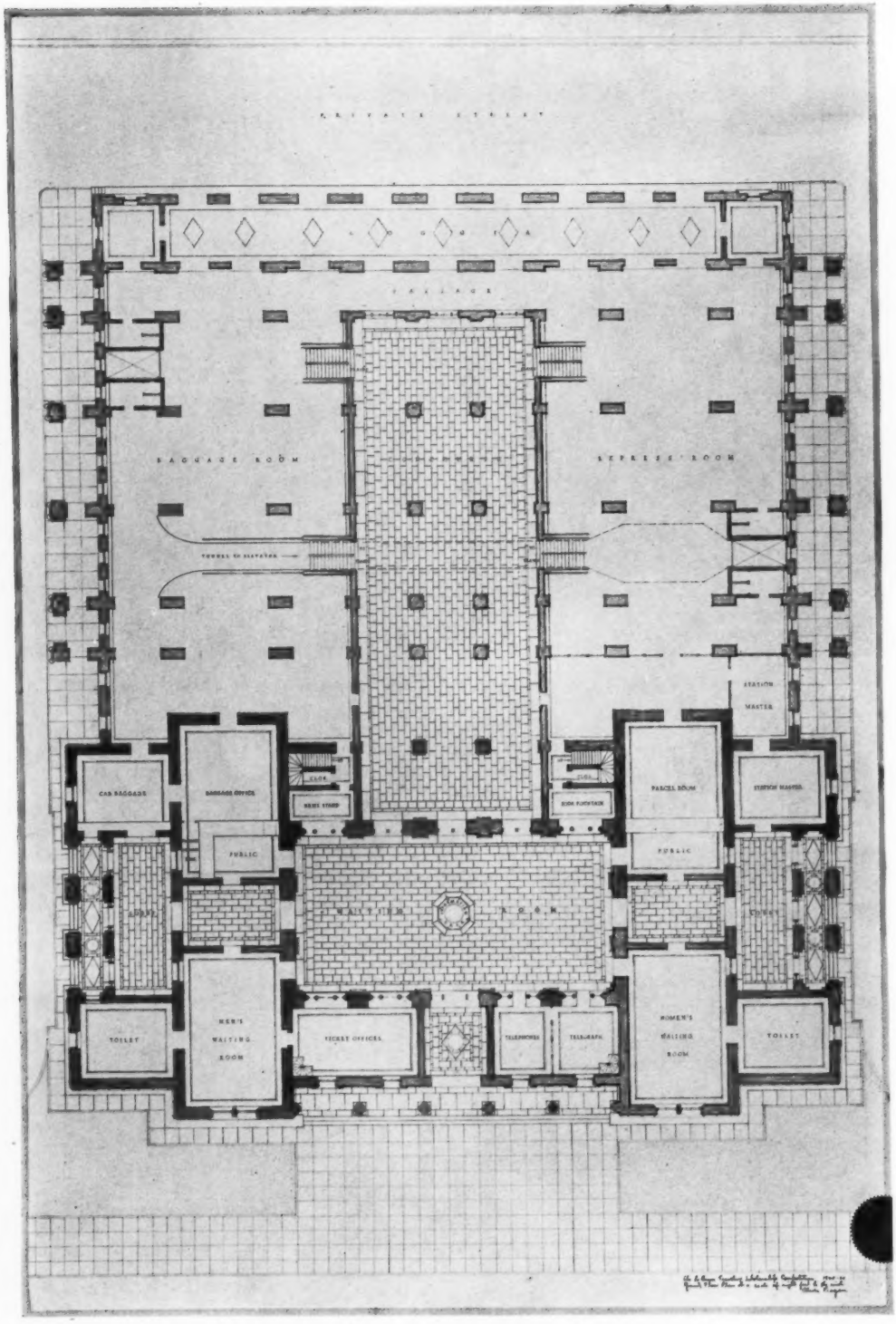




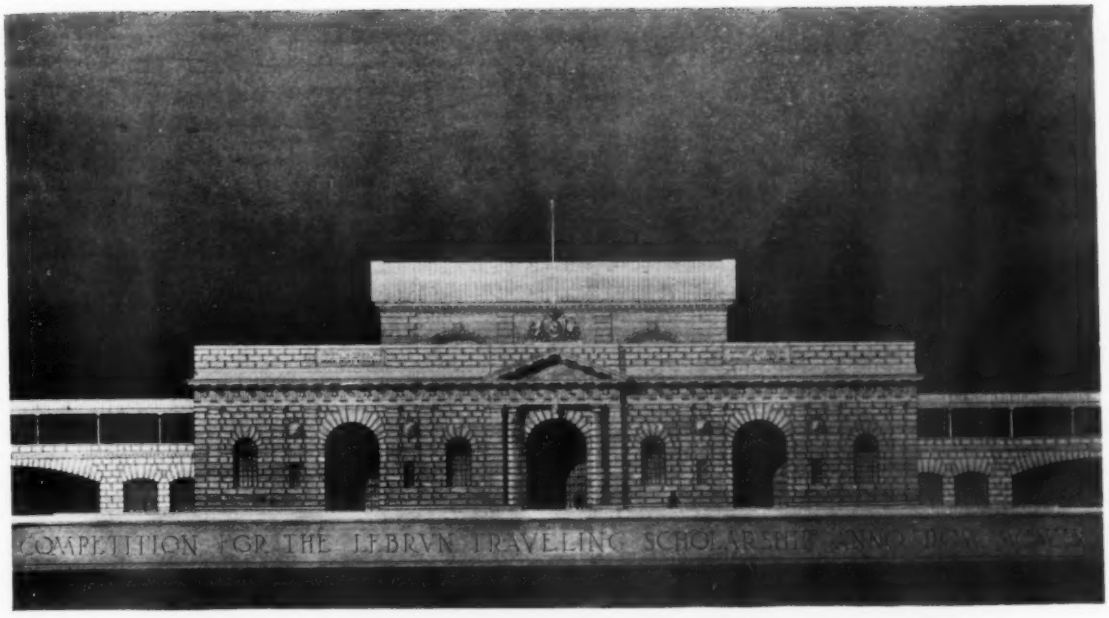
SCHOLARSHIP AWARD—Oliver Reagan, New York City
Main Elevation and General Plan

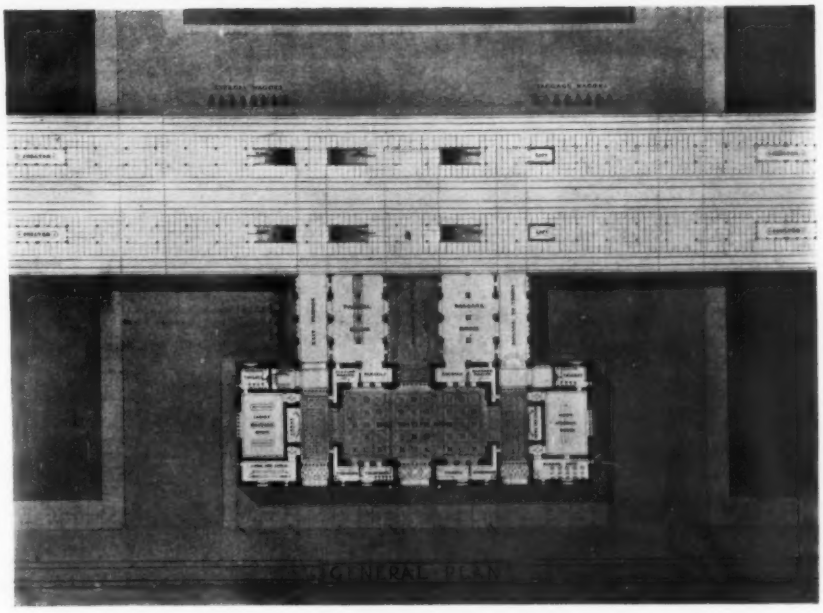


SCHOLARSHIP AWARD—Oliver Reagan, New York City
Rear and Side Elevations and Section

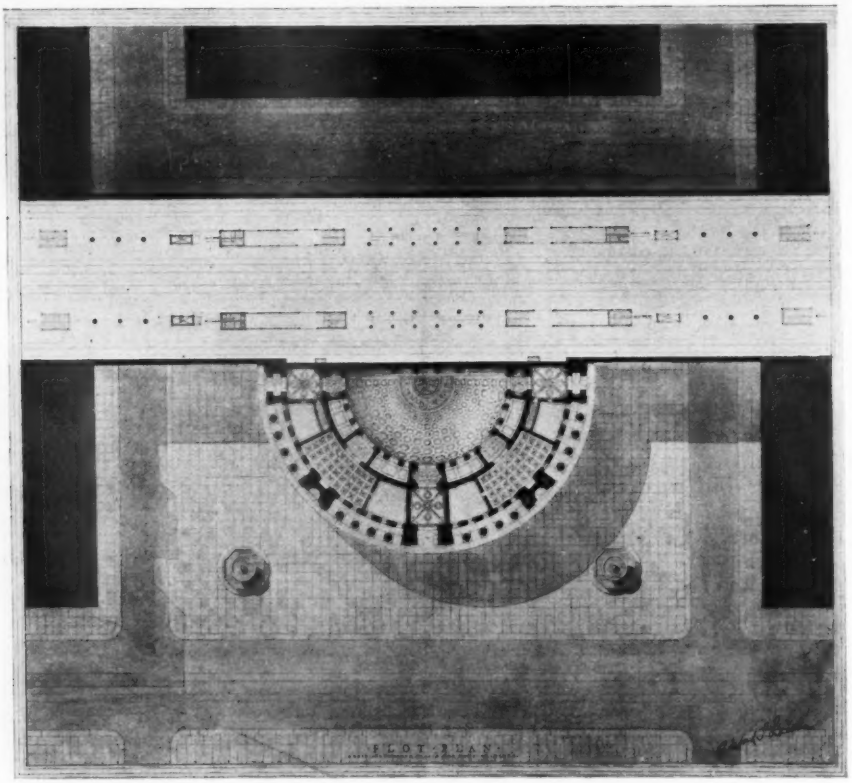


SCHOLARSHIP AWARD—Oliver Reagan, New York City
Plan of Station

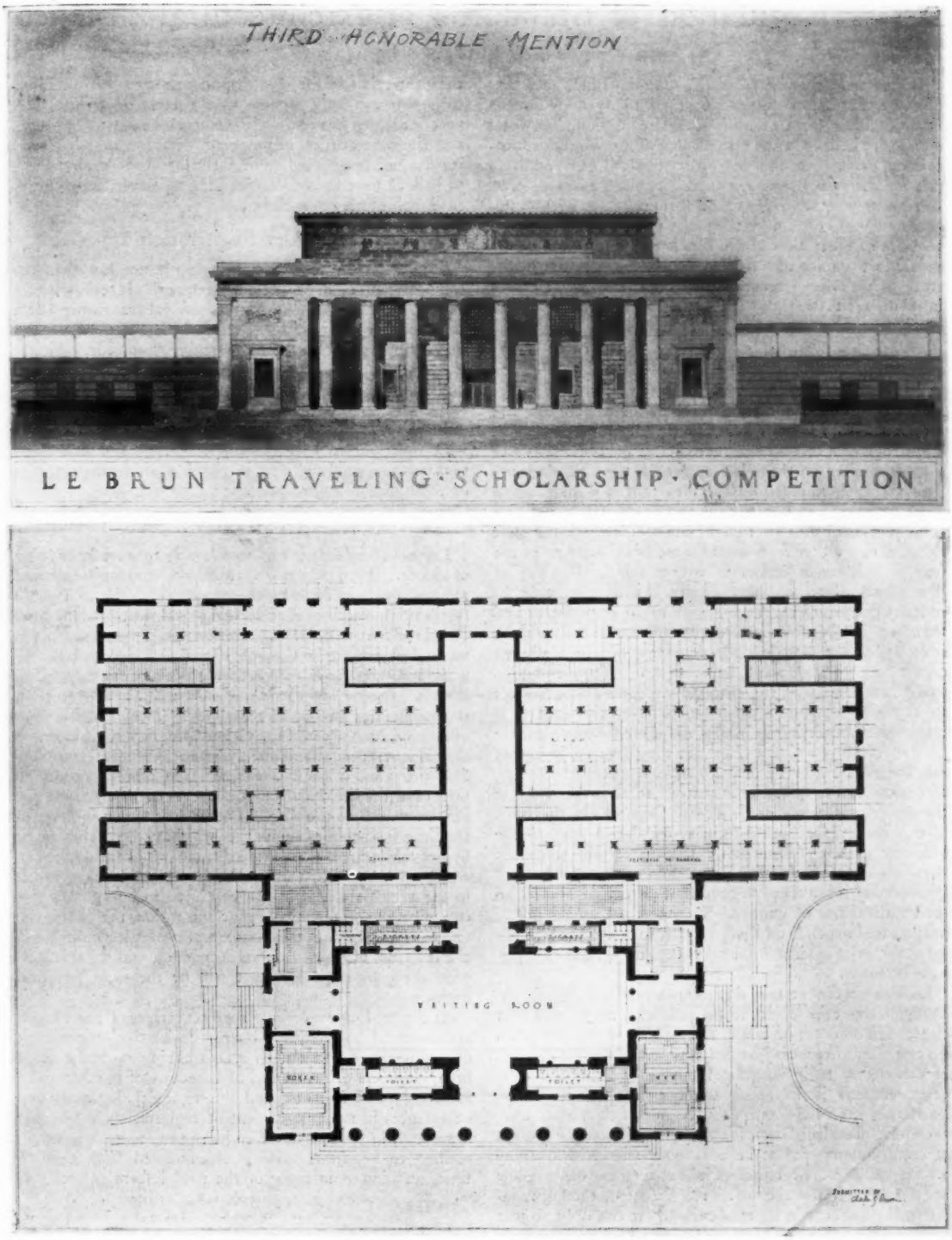




First Honorable Mention—Robbins L. Conn, New York City
Main Elevation and General Plan



SECOND HONORABLE MENTION–Edward S. Lacosta, New York City
Main Elevation and General Plan



THIRD HONORABLE MENTION—Charles J. Irwin, New York City
Main Elevation and Plan of Station

Legal Regulation of Standards of Architectural Practice[1]

By EMERY STANFORD HALL[2]

It may be safely asserted that a majority of the members of the architectural profession stand today as a unit in favor of some form of professional regulation. At least a majority believe in the establishing of a minimum educacational experience and character standard as a condition precedent to the use of the professional title of architect. But as to whether this standardization shall be promulgated and enforced under the police power of the state as a measure of protection of the life, health and safety of the public in the form of a license, or under the power of the state to establish educational measures of fitness in the form of a titular standard, there is much difference of opinion.

The License Form of Police Regulation

The fundamental theory of the License Form of Police Regulation is that protection of the public welfare can best be secured by the state first assuring itself of the expert knowledge of a certain designated class of its citizens and then depending on that class to act for the public's good. This theory is founded on the idea that if a man knows what is the right action to take and knows the calamitous consequences of wrong action, he will ordinarily do the right thing, acting either from moral sense or on account of the fear of evil consequences of wrong doing. By way of illustration, if an ordinary citizen makes a mistake in construction which causes jeopardy to life or property and that jeopardy becomes an actuality he can be held responsible under the civil law for damages; but, if a proven expert does the same thing, he, because of his proven knowledge, can be held on the criminal law for a deliberate act to cause injury to his fellow-men. He, the expert, is estopped from setting up a plea of ignorance as an excuse for dangerous practice. If his act should result in loss of life, the expert may be held for manslaughter or murder, according as the outcome is proved to have been either the result of careless or deliberate intent. On the basis of this theory the license form of legislation says to the ordinary citizen, "Thou shalt not do certain things of thyself without the assistance of certain approved experts." By so doing it makes experts in that particular branch, so far as that line of endeavor is concerned, quasi public officials and depends on them as such to guard the public's interests, even against what may seem to be their own private interests.

License confers certain duties on a selected class in exchange for certain service to the public on the part of that class. On no other basis can license be justified in equity. To argue that license is justified in protecting a certain class of citizens in their vocational means of livelihood over other citizens is to argue without legal basis. Class legislation for class purposes is unconstitutional and, therefore, class legislation is only justifiable on the ground of corresponding public benefit. Our friends who argue for license to insure themselves jobs against the other fellow are arguing without the law. The license method of regulation is restricted in its application. It can only go just so far as the limitation of police power which includes only the protection of life, health and property. In architecture, this can only include that portion of architectural practice which has to do with structural safety, sanitation, and the conservation of property. (Unfortunately America has not progressed sufficiently far in its legal theories to believe that wounds against the aesthetic sense constitute real injuries to society.)

Titular Registration

Titular Registration is nothing more nor less than the establishment of an educational standard. It serves merely as a unit of attainment—a professional measuring stick, if you will—which may be exceeded in good measure, but must never be less than certain standards. Titular registration confers no special privilege on any class of individuals. It does not say to the public, "You must employ thus and such persons," but it does say to the public that if they elect to employ thus and such persons with the right to bear certain title, they will find these persons reasonably skilled in the fundamental principles of their special line of endeavor.

Summary

License standards are limited legally to mere knowledge of safety. Titular standards have no legal limitation and may be made as high as the profession desires. License regulation prescribes that certain work must be done by a certain class. Titular registration lets any class do the work, but proves how much better and more efficiently work may be done by certain especially well qualified classes. License regulation affords a limited protection to the ignorant portion of the public. Titular registration affords no such protection. Therefore, titular registration should not be adopted in any state until that state has first provided a comprehensive state building code, to safeguard the life, health and property of its citizens—the unwise as well as the wise. Then every reason in favor of the license system of regulation will have been eliminated by providing for the benefits accruing out of this system in another way. With a comprehensive building code, which in the very nature of things will have to be more or less complicated and technical in interpretation, the public will find it necessary to retain competent professional advice in the interests of expedition and economy, and for this purpose the competent architect will be the most practical advisor.

At the St. Louis meeting,[3] representatives of the various architectural registration boards legislative committees of architectural societies in states having no registration laws, members of the Board of Directors of the American Institute of Architects, and guests, met and compared experiences in the enforcement of registration and license laws, and, in the matter of endeavor to secure legislation, seemed to be, from sentiments expressed from time to time, unanimous in favor of the titular form of architec-

[1] From a paper read before the Illinois Society of Architects.
[2] Secretary and treasurer of National Council of Architectural Registration Boards.
[3] See THE JOURNAL for December 1920 and January 1921.

tural regulation in preference to the license form. Yet they took no definite action, due to the fact that they believed that any pronunciamento on this subject should come officially from the American Institute of Architects.

Administration

In the matter of administration or registration laws, certain difficulties seemed to stand out pre-eminently. Among these, the question of reciprocal exchange of registration between states was foremost.

Regarding this situation, the following facts were brought to the front: That, while it was recognized that there is a common denominator of interest between all learned professions and that professions must stand together as one solid and united body on the principle that the public is entitled to have and maintain a class of thoroughly trained experts, a class to whom it may turn on occasion and find competent and unprejudiced advice on any technical subject, it is evident that the vitality of the professions can best be promoted by preserving the distinct identity of the different elements forming the body of professionalism.

It was observed that professional regulation seemed to prosper best when administered under the educational department of state administration; and it was admitted that, so long as we live under our present national constitution and the doctrine of state rights in local affairs is held as organic law, there will always be differences in laws in different states regulating the practice of architecture as of all other professions.

It was observed that, as legislatures differ in personnel, so will there be different laws promulgated by them, and also that the very nature of an architect's business leads to inter-state activities and emphasizes the importance of some form of reciprocal exchange between the states. In view of these observations, it seemed evident that there should be some national agency that could use its good offices to secure uniform standards of registration requirements and facilitate reciprocal exchange of registration between states.

Reciprocal Registration

Facing the foregoing facts, the St. Louis meeting did the obvious thing—organized the National Council of Architectural Registration Boards, and stated its purpose to be as follows: "Its object is to foster the enactment of uniform architectural laws, equality of standard in examinations of applicants for state registration or licensure, and the establishment and maintenance of reciprocal registration between states having registration laws."

In working out the purpose of the National Council of Architectural Registration Boards it has been discovered that in a majority of the states the examining committees or boards have discretionary power with reference to the maximum scope of examinations and entrance requirements, but do not have discretionary power with reference to minimum requirements which are in many cases fixed by law. With these limiting restrictions in mind, it was quickly seen that it would be possible to prepare an examination outline which would meet the requirements of every state having registration laws, although such an examination would be in excess of the requirements of many, if not all, states. This furnished the Council with the idea that it might work out a Standard N. C. A. R. Examination which could act as the common denominator for all examinations and afford a standard medium of exchange between states, and the promulgation of such an examination was made part of the object of the Council. *Of necessity, it is purely an optional examination; no one is compelled to take it.* But any one who elects to take the examination and passes with creditable marks has a right to surmise that his transfer of registration from state to state will be very prompt and with the minimum of inconvenience, for he will know that he has passed an examination before one examining committee which meets practically every requirement of every other examining ing committee in every other state and is in excess of the requirements in most of the states.

The mode of procedure was explained in THE JOURNAL for February 1920, and further information may be had from the office of the Council, 3230 West Monroe St., Chicago, Ill.

The Minnesota Registration Law

By D. EVERETT WAID

A registration bill appears to be on the eve of enactment into law by the Minnesota legislature. It contains some excellent provisions but its chief interest to architects should be its warning. Architects elsewhere, contemplating legislation should study some of its features. Its title is, "An act to regulate the practice of Architecture, Professional Engineering and Land Surveying."

Section 2 provides that everyone in bona fide practice when the law goes into effect may continue to practice without a certificate of registration. This is wise because it does not force a board to issue certificates of competency to men not really qualified and thereby help, in a positive way to impose upon the public and to discredit the profession. It might be questioned whether the exception which bars old practitioners from public work if they are not registered, is constitutional. On the whole, Section 2 is admirable.

Section 3 provides that the Registration Board shall be composed of three architects, three different kinds of engineers and one surveyor, and that "in determining the qualifications for registration as architects, a majority vote of the architect members of the Board only, shall be required." But it is possible to hold meetings when the architects of the Board would have only two votes out of six.

Section 10 gives the Board power to revoke the certificate of an architect, or, such revocation having been made, to reissue a certificate of registration. It is conceivable that such a Board, especially if it has come under political influence as sometimes happens, may abuse its power and make its own interpretations of an ambiguous provision.

Assuming, however, that this joint registration act were so safeguarded that the architects of the Board have in their hands not only the power to determine the qualifications of architects but the power to issue or withhold certificates, and the power to revoke and reissue them, the composition of the Board is still open to criticism.

There should be at least five architects on a Board which has such drastic power over other architects. Experience in administration of such powers brings a realizing sense of the difficulties to be solved in many cases, and of the wisdom of placing the responsibility of decisions in difficult cases upon a majority of at least three. The Institute model law provides that if only three architects are present they must agree unanimously. And in actual work in doubtful cases the three will sometimes defer a decision until a subsequent meeting when the differing points of view and the added wisdom of four or five members can be brought to bear.

This bill seems to place a ban upon foreign architects. American architects are doing important buildings in China, South America and in Europe. It seems un-American to deny to others the same privilege which we enjoy. The Board of Examiners should have power to permit a foreign architect to practice in this country under bond or such other assurance of his ability and integrity as may be reasonable. But to forbid his practicing in Minnesota unless he takes a Minnesota architect into partnership on his commission, is surely commercialism of a sort most discreditable to an honorable profession.

This bill gives the Board broad powers in determining an applicant's qualifications. The requirement of four years' actual practice in addition to graduation from an approved architectural four years' course precedent to registration is admirable. But no minimum standard of general and technical education is fixed for those who are not graduates of an architectural school. Such a minimum seems essential as a basis for reciprocity among the several states.

This bill permits the Board to recognize membership in the American Institute of Architects as conclusive evidence of qualifications to practice architecture. However gratifying that may be to the Institute, it is a grave question whether it is right in principle. It may well be doubted whether it is right or possible to give the American Institute the quasi-governmental functions which the Royal Institute of British Architects enjoys. There are also some provisions of the Minnesota bill which would be interestingly discussed by a lawyer. One of these is the granting to corporations the right to practice architecture and engineering.

The consideration of greatest present interest to the Institute brought forward by this bill, however, is that of joint registration of architects and engineers. A casual reading of this document impresses one with the diversity and complexity of educational requirements in the two professions, and the many problems and difficulties facing a single Board of Examiners in administering a joint law. It is possible that two Boards of Examiners could cooperate and use one office and one clerical force for their routine work. Both Illinois and New York possess educational departments which administer for a dozen Boards of Examiners for as many different professions—architecture, engineering, medicine, optometry, dentistry, nursing, and others. But is it not far wiser instead of enacting one complicated law for two different professions, to pass parallel laws which can so easily be harmonized to prevent any conflict. Architects and engineers can cooperate in the most friendly and effective way to secure the simultaneous enactment of such laws.

Correspondence[1]

Multiform Housing and the Architect

OF THE many aspects of low-priced multiform housing which have been treated extensively in the architectural publications, there is one yet remaining, which, it seems to me, architects have not fully grasped. This is the place of this type of housing in the profession of architecture.

Housing in low-priced apartments is today the greatest field in architecture which still remains to be developed. Architecture has made extraordinary progress in other directions, particularly in the individual house and in the more costly and more monumental classes of buildings. In these classes, the architect is now looked upon as a necessity, because the public has come to learn that the employment of his services offers the surest prospect of obtaining a result successful from every point of view. The prestige of architecture in these fields is due to the high standards set by well-known architects, who, in turn, owe much to the wonderful leadership of that group headed by McKim, Hastings, Post, and many others who did so much for the profession a generation ago. When this great achievement is considered, one may indeed regret that similar services have not been at the disposal of the public in the field of low-priced and tenement housing, in which the mass of the people in our cities must live.

As everyone knows, this type of dwelling has been usually the worst possible in design and construction; and today the situation of those who are compelled to occupy them is worse than ever before. The rapidly increasing congestion in cities, the mounting land values, and the high cost of construction and the shortage of housing space are conditions which require some measures of relief. The architect alone can solve this problem, and in doing it he can win popular confidence and support to an extent not hitherto attained.

Thus a wonderful opportunity is open to the architect—perhaps the greatest one which has ever come to him in American life. It is, however—and I cannot emphazise this truth too strongly—an opportunity which will require all the resources which the architect has in him if he is to make the most of it. He must show vision, imagination, the highest professional integrity, and the greatest ability and initiative. More specifically, he has many obstacles to overcome, which it is my purpose to point out briefly.

The first is the threatened competition of speculative building, particularly that more formidable type of it which has been growing up in recent years. I mean the contracting firms, containing in their organizations architectural and engineering services, which have, in a degree, taken the place of the architect in commercial work. The architect should lend all his energy and his intelligence in

[1] THE JOURNAL *desires to make its columns valuable as a medium for an exchange of thought on all matters relating to the profession of architecture. All such expressions, whether in editorials, or otherwise, must obviously be accepted as expressions of individual opinion. Contributions are invited, all articles to be signed by the name or initials of the writer in acknowledgement of their source and the writer's responsibility.*

combating the efforts of these builders. Instead of hanging back, as some architects unfortunately appear to be doing—disparaging themselves and their profession, to its great injury, offering nothing constructive to help it—the architect should be foremost. At no time should he surrender his directing leadership. The integrity of his disinterested professional position, his training, and above all his vision, entitle him to provide the mind which governs a building operation. It is leadership and initiative which will enable architects to meet the competition of contracting firms.

The other obstacles in the way of the architect's entrance into the field of low-priced multiform housing concern chiefly the inertia of the public, who do not yet realize how they have been exploited by the speculator, whether investor, builder, or real estate operator, and, I must add, the speculative type of architect, who has undertaken to supply them with homes. To understand what this means, I may cite some facts drawn from the recent history of tenement housing in New York, and from my own experience in this class of work.

When the Tenement Act of 1901 was passed, it contained so many complicated restrictions, which had been designed to end forever the building of the horrible tenements of the old "dumb-bell" and "railroad" types that it defied all efforts to design satisfactory new substitutes. Finally, after two or three years, a few able architects succeeded in solving the law by designing the type which has become known as the "new law" tenements on 25 foot front lots. Though this new type seems unsatisfactory today, it was indeed a great improvement over the old law tenements, and might have opened the way to a real solution of city tenement housing. Unfortunately, however, the development stuck there. Speculators at once seized upon the new plan and reproduced it endlessly in a most stereotyped way. Wherever they changed it, it was generally for the worse, in design as well as construction. Their object was usually greed—exploiting the public to the utmost.

I regret to say that some architects shared in this unfortunate activity. They established a custom of selling plans and specifications for $75.00 or less, and I believe that when it is realized how this practice resulted in driving out the few capable architects in the field, in preventing other practitioners of standing from entering it, to the degradation of architecture, no one will feel that considerations of professional etiquette should prevent me from condemning individuals of this type.

In view of the conditions, it is not surprising that plans and specifications were so poor that they were in many cases almost impossible to interpret or to carry out. They lacked study from the economical side as well as in design. Supervision of construction was hardly practiced, and the execution of the work was left almost entirely to the builder. He was allowed to work out the final results as best he knew how, and to his own advantage. The client had little protection. The custom had grown up in the mills of executing full sizes, attempting to imitate drawings made by capable architects. There is nothing so necessary to good practice as the preparation of careful ¾" and full-size drawings, but many architects left this duty to the contractor, whether from ignorance, or underpayment, or greed, I do not know. Thus the architect gave way to the contractor. On the other hand, this class of architect yielded too much to the client, beginning in the early stages of the design, and allowed initiative and ideals to be stifled. Deferring unduly either to client or to contractor robs the architect of his power. Practices such as these, if they still exist anywhere, should be abandoned. It is the testimony of the Building Department of New York City that there are too many plans and specifications which are superficially and ignorantly prepared.

It was with the idea of bettering the miserable situation in low-priced multiform housing that I entered the field about fifteen years ago. Formerly I had been a general contractor, and before that I began my career in the real estate business. Hence I had come to appreciate, from the outside, the deficiencies of many of the architects with whom I had had dealings, and I determined to do what I could to put this type of architecture on a proper basis. It has not been an easy task.

I have thus described the situation in tenement housing. Architects who would see this field reclaimed in the interest of good architecture should understand fully the conditions which have prevailed there, if they are to be successful in the effort. First of all vision is needed—vision and imagination to see the vast possibilities in city housing, of the educational and civilizing effect on the people which might come from providing them with livable, efficient, economical and beautiful homes with garden space, where they can obtain recreation now impossible in the streets. But the architect will have little success if he can not back up his ideas with an ability to carry them out in bricks and mortar, and even then he must expect to fight for them continually against ignorance and greed and inertia. Initiative is every bit as necessary as professional vision and ability.

Furthermore, the architect must pay great heed to the financial aspect of his projects. This, in fact, is a side of architecture which can still be strengthened in all fields, because every building, even if not of the type called commercial, may need to be sold some time. In housing, no project can be a success in which the architectural design—and execution—is not paralleled with a financial structure just as carefully designed and executed, as the technical one. This financial structure should enter into all phases of finance—capitalization, loans, amortization, land values costs, rentals, management, and operation, and should be considered in the light of competition with other buildings. This work should not be left to a speculator. The architect is best able to do it, because of his superior knowledge of design and construction, and because of his dependable professional standing

In conclusion, I offer this short account of my experiences in low-priced multiform housing, in the hope that it will be of value to architects. I trust they will see what the improvement of this class of buildings means to architecture. Ability to serve the public is the true measure of the worth of a profession. This is why I believe that when the architect becomes responsible for the housing of the people, his profession will enjoy its greatest prestige and standing.

ANDREW J. THOMAS.

The Proposed Revision of the Competition Code

The Special Committee of the New York Chapter, referred to in our last issue, reported at the February meeting, that after thorough consideration of the question it recommended no change in the existing Code except that the following changes are suggested in Article 3, striking out everything after the first sentence in the second column on Page 5, and substituting the following:

Open Competitions

Open.—In this form all architects who desire to do so may compete.

The Open form has the advantage that it may lead to an unusual solution of the problem or to the discovery of a designer of unsuspected merit.

As the owner should feel bound, not only legally, but in point of honor to retain as his architect the competitor to whom the award is made, he may reserve the right event of the award being made to an architect without sufficient experience in practical matters, to require that he select as his associate an architect of proven experience.

Mixed Competitions

Mixed.—A combination of the two forms of competition above described.

Omit all of Article 4 and all of Article 5, and renumber remaining articles to conform with these omissions.

This change is suggested in answer to the criticism that the present code provides no opportunity for the brilliant young man to show his talents.

In regard to the simultaneous submitting of sketches by different Architects for the same job, it was admitted by all members of the Committee that if any change were made in the present code affecting this question (*i. e.*, definition of a competition) it should be fundamental and go to the root of the matter—that mere exceptions to the present rule would not do, as they would only complicate an already complicated situation. For this reason the proposal of the Boston Chapter was unanimously disapproved.

The proposal to define competitions as only those carried on anonymously was considered by all members of the committee to be fundamental enough and go to the root of the difficulty. Two members supported this idea, but three opposed it on the ground that while it might correct the present difficulties arising from the simultaneous submission of sketches, it would seriously affect all buildings, especially the important ones which would naturally go to competition under the present code. They believe that any loosening of the regulations whereby political building Committees might secure drawings from several members of the Institute under conditions other than those now made mandatory, would frustrate all the work accomplished to date in bettering competition conditions throughout the country and nullify the real value of the present competition code which these same political building Committees are now forced to use if they are to stand) before their constitutents with any semblance of decency and fair dealing.

The "Own Your Home" Exposition

The Publicity Manager of the exposition has issued a statement to say that more than 500 plans are expected from the competing architects. The prize-winning plans will be first exhibited in conjunction with the first annual "Own Your Home" Exposition in the Coliseum at Chicago, March 26th to April 2d, according to Robert H. Sexton, managing director. Real Estate Boards throughout the country are evidencing much interest in the "Small House Competition," cooperating in connection with the "Own Your Own Home" movement as sponsored by the National Association of Real Estate Boards.

The Philadelphia Real Estate Board has asked that an exhibition of the prize-winning designs be held there, and similar requests have been received from Boston, New Haven and the newly organized society, Art Center, Inc., New York City.

"The entire program seems to have met with a very agreeable and very general response throughout the country," says Mr. Henry K. Holsman, architectural adviser. At the Chicago "Own Your Home" Exposition, a fac-simile of the first prize-winning house will be constructed of lumber, and the front elevation of the first prize-winning brick home is to be erected by exhibitors who have already been allotted space. One of the largest department stores in New York City will build a fac-simile home in its establishment. Other fac-similes and models will be seen at the third annual "Own Your Home" Exposition in New York City during the two weeks of April 16th to 30th. Arrangements are being made for publishing the plans in book form for popular national distribution. Sets of plans, complete with specifications, ready for erection, will be made available at small cost to prospective home owners, architects and builders.

On the Way to Marathon

We started, certainly, much too late. Marathon is only fifteen miles from Athens, but the direct path lies over Pendeli (as the marble mountain Pentelikon is now happily called), and we meant to walk most of it; Greek mountains, moreover, are hard and rough going. We had almost resigned ourselves to defer it; but the noonday sun shone gloriously, and by a common impulse we three young archæologists shut up our large tomes, rushed off to change into our kit and collect provisions, and presently found ourselves in the motor-'bus for Cephisia, a beautiful resort to the northeast of Athens. The way was lined with trees and groves; at Cephisia itself you hear the sound of running water, rare in this arid land; while above its white houses and luxuriant gardens soar the shapely peaks of Pendeli, the bare white marble flashing from its huge buttresses. Our route lay over the northern shoulder of the mountain, by the village which first welcomed the stranger god Dionysus to Attica (how else should it still bear his name Dionyso?), and was also the birthplace of Thespis; then down through a deep and wild ravine to the Plain of Marathon, just at the place where the Greeks are supposed to have encamped all those days before the battle.

Over fragments of Pentelic marble we wound upward through a delicious heath-like country of pines and firs,

ON THE WAY TO MARATHON

huge boulders and rocky knolls. Suddenly, at the ridge we looked down upon the sea and the Plain of Marathon, still a long way off, and a tumbled wilderness of ravines stretching toward it from our feet. At that sight no words came to any of us. That small strip of dead level plain, with the stream winding sluggishly through its marshes towards the sea, seemed destined by nature for some great moment in history,—the only bit of flat ground the eye could see amid the riot of beautiful mountain contours.

By this time it was late afternoon, and we lost no time in plunging down into the shadow of the ravine. The doubtful path soon vanished, and for two hours we toiled along, through thick brushwood and undergrowth,—the beautiful, formidable shrubs of Greece, full of aroma, and thorns, pungent in both senses at once. Adventures accumulated in the gathering dusk; crossing of torrents which grew bigger and wilder as we descended; scrambles up ridges attracted by the profile of a hut or a human figure silhouetted on the skyline; encounters with a Wallachian shepherd, who spoke Greek and even understood ours, but assured us that we could not possibly find our way down before night; and with troops of fierce dogs, who made the hillside ring with their baying as we approached, but proved susceptible, happily, to the argument of the lifted stone. We were already considering which of the boulders near would make the best shelter for the night, when one of us descried a white bell-tower sticking up apparently out of the earth at our feet. It was the belfry of a tiny church, perched on a slope so steep that we could have jumped on to its roof. We clambered down, assured of finding at least some kind of road. Then suddenly, in what we had taken to be a ruined house, to the right of our steep descent, we spied a light, streaming from the most diminutive of windows. Counsels were divided. Two of us had been properly brought up to be nervously distrustful of unknown houses at nightfall; but the third threw scruples aside and just knocked at the door. Before the knocking was over there came out the thin, bent figure of an old priest. He had seen us from the window and come out at once with a candle to let us in. He looked a little wild and dishevelled—an ascetic type, in fact,— but he had the kindest brown eyes in the world. When we asked the way to Marathon he would not hear of our going on, and almost forcibly shut the door on us when we were inside; and I think his obvious and touching kindliness and (perhaps even more) a roaring log-fire in the deep hearth-recess of one of his two small rooms reassured our timidily. It appeared that he was sole tenant for seven months of the year of this poor little "monastery," returning for the summer to a big one on Pendeli—a place of fabulous wealth, by his account. It would be hard to describe what sumptuous entertainment Father Pavlos provided out of the meagre conditions in which he lived. From about half-past six, when we arrived, to half-past eleven, when at last he retired to rest, he was never still for a moment. All the time he was pottering about, seeing to some little detail for our comfort; fresh logs of wood for the fire, a donkey's saddle to supplement the scanty chairs, wine and cognac to make good the absence of tea or coffee ("At Pendeli they have *tsai* (tea) and better wine than this; but I have few things, you must excuse it!"); finally, the preparation of supper. In this last business hieratic and culinary ritual were pleasantly intermingled, and the frequent washing of hands went oddly with the appearance of the places and utensils in which the food was kept. First he fetched out of a deep cupboard a dried fish and put it, just as it was, in the log fire where it was quickly roasted. He found—heaven knows where—some tomatoes and onions, which he made very skilfully into a salad. Out of a drawer he took a number of slices of dried bread and proceeded to soak them well in a bowl of water; then cleared a little table in the inner room, his bedroom, placed candles on it (his little habitation seemed chockful of the taperlike candles they use in the churches, a native industry in Attica), a couple of plates—for four persons!—then the fish, salad, and bread, and a tin of sardines (I am sure very precious), and a fork each; and bade us sit down. We did so, and for an hour at least we sat there, he continually urging us to eat and producing new dishes which he besought us to taste (with the constant apologetic refrain: "At Pendeli they have better food, but I have few things, you must excuse!"), while eating next to nothing himself. The menu seemed inexhaustible, and included before we had done white goats'-milk cheese—the very curd to which Polyphemus likened his Galatea's cheek,—nuts and pomegranates, boiled beans, sweet cake, and finally *krasi* (wine) and more *krasi*, from a great wooden wine-flask, tempered, if we chose, with water from tall amphorae with narrow necks standing on the floor.

He told us his name, and asked ours. Surnames mean nothing to Greek country-folks, and he just brushed these aside and fixed on what he could of our Christian names, freely transforming them to his taste. One of us thus became Helenitza, the second Elevtheritza, the third Marioula. And we were really grateful to the old man for thus rechristening us. For when at last we three found ourselves stretched side by side on a rug by the fire (I fear the old man had despoiled his own bed of some of its covering), it seemed quite impossible to keep up formalities and say: "Is my elbow hurting you, Miss——?" And so, thanks to Father Pavlos, Marioula, Elevtheritza, and Helenitza we remained.

In the morning we bade our host farewell. He would accept nothing but some candles for his church. "It is in the Gospel," he said quite simply, "that we should entertain strangers," and that, one felt, was enough for him.

Thanks to this fortunate misadventure (which a friend afterwards playfully compared to the visit of the "three ladies," weary and wayworn, to the abode of the Lord Love, in Dante's canzone), we passed the night nearer than most pilgrims to the site of the battle—the village of Marathon lying far inland. The site itself is marked by a great mound (*Soros*), approached by a straight, narrow road. Pine trees, wild and ragged, grow in a wide ring round its base, their tops nearly level with its summit. Beyond stretched the bare level line of the sea, and the Euboean hills, dark and gaunt in the morning light. It was unspeakably impressive. The thought of the close kinship, across centuries, between that field, where the Athenians lie buried, and so many fields in France today, made the place hardly bearable. It had that simplicity of the greatest things which seems to express everything.

MABH., in the *Manchester Guardian*.

From Our Book Shelf

Placebo—or the Knife?

It is exceedingly rare that an author is obliging enough to include a review of his own work in the book. But this is one of the many original features of "The Housing Famine"[1] and can be explained by the fact that the author is plural. In fact there are three of them in utter disaccord one with another, and a very human desire to deliver one ultimate and crushing rejoinder led each one of the trio to write a final chapter summing up the bad points of his opponents' arguments. A few words were also introduced relating to the soundness of their own respective views.

The book is a triangular debate on the Housing Problem between John J. Murphy, at one time Tenement House Commissioner of New York City; Mrs. Edith Elmer Wood, a well-known writer on housing, and Frederick L. Ackerman, an architect who has fully earned the right to speak on social and economic subjects.

In the course of the seventy-two short chapters, the heat of the argument leads the first two opponents to wander at times from their stated principles and to avoid confusion their own convenient summaries should be read first and kept in mind while following the arguments. Deviations from the straight line are particularly easy to Mr. Murphy and Mrs. Wood for their logic has no very deep root in economics, but Mr. Ackerman finds it easy to remain on, or rather in, safe ground, because he sometimes fails to come to the surface. This is not a very grave charge to bring against a philosopher except, as in this case, when writing for a popular audience. But it must be said that one of the most difficult things to do is to clothe basic thoughts in language understandable to the uneducated. The heaviest responsibility for any lack of contact lies with the untrained reader and not with the thinker.

Mr. Murphy and Mrs. Wood being at all times visible to each other engage in somewhat of a duel, and only when they stub their toes on one of Mr. Ackerman's roots do they stop to investigate the cause of their pain. They are quite convinced that they are far apart and can never be reconciled because they demand different forms of governmental remedies, and Mrs. Wood, liking her dose (there are such people) is sure that Mr. Murphy is a very odd person because he cries out that all medicine is horrid. Mr. Murphy knows his Adam Smith and Henry George. He is an individualist and to him government is an unfortunate necessity but at the same time, he places great hopes in the rearrangement of taxes, surely a governmental function if there ever was one. Mrs. Wood wants housing to be included in the class of public utilities, a state activity by its very term. So they make faces at each other and argue between themselves that Ackerman is an impossible personage. Mrs. Wood says that town planning makes one feel better and Mr. Murphy says that there is something in it if it were not that the servants surreptitiously drain the bottle. It is quite impossible to keep it around! To quote him literally, "The town planning scheme becomes merely an adjunct to some real estate boom." Then Mr. Ackerman points out that they all agree in blaming congestion for the housing shortage and proposes to inquire into the causes of congestion. But this is not practical, his opponents cry, what we want is houses. They are somewhat annoyed at the interruption and return to their amicable quarrel. All three make the curious statement not once but many times, that the removal of the burden of taxation from houses is necessarily a subvention. Now this can only be true if it can be shown that taxation is now applied scientifically and with justice. This no one can seriously maintain. When a tax is beyond the ability of the citizen to pay, it is always shifted to other shoulders. It is a rule that applies even to corporations. The three debaters agree that modern industry does not pay their operatives enough to live in a proper house, in other words he is not receiving a living wage. How can the removal of a tax on an object beyond the working man's economic power of acquisition, be construed as a subsidy?

There is no doubt that Mr. Murphy and Mrs. Wood have a great advantage over Mr. Ackerman in that almost any of their suggestions will get houses built—some houses—for a while. The recently abandoned English subsidy, unsound as it was, nevertheless did result in the erection of a good number of houses. A supply of cheap money, from any source, also will have this temporary effect, but there can be no final answer to the riddle unless Mr. Ackerman's analytical method is followed. With remorseless logic he links up cause and effect. He is the scientist, abstruse, if you will, but always searching after truth. Bad and insufficient housing is caused by congestion brought about by modern industrial methods, governed by concentration of economic power in pursuit of profit. That is his theme and to him it is only an irritating waste of time to investigate means for building more houses in places where congestion is already unbearable. He is content to expose the futility of his opponent's position and without proposing a definite line of action, to show why all remedial measures have failed of their large purpose. His argument is characterized by a frank pessimism and yet of the three points of view, it alone has any promise for the future.

J. I. B.

Movies and Morals

The logical working of a student mind was never more beautifully exemplified than in Mr. Lubschez's tale of how the moving picture came to be.[2] He is almost parsimonious in the use of words, and yet he unfolds his story with a precision all too seldom met with in an excursion of this kind. Other students of the subject would find it difficult to pick a flaw in the result of Mr. Lubschez's research, I would say, so simple and clear is his recitation of the sequential steps, the footprints of which run back through the sands of almost twenty centuries.

Architects will perhaps be especially interested in what Mr. Lubschez calls his opinions and convictions, which indicate a certain philosophical attitude toward the development of the human mind. But it may very well be asked whether the art of making things easy for mankind has had the effect of stimulating intelligence. A certain measure of symbolism is introduced into the moving picture, and that is precious. Whether in bringing literature and drama to men in condensed form, and so widening, as the author claims, the sphere of man's mental horizon, will have the effect of elevating him above the low intellectual level of

[1] "The Housing Famine: How to End It." By John J. Murphy, Edith Elmer Wood, and Frederick L. Ackerman. E. P. Dutton & Co., New York, 1920.

[2] "The Story of the Moving Picture." By Ben J. Lubschez. New York. 1920. Reeland Publishing Company.

the American, or any other bourgeoisie, may very well be questioned. The mind is sharpened by use, and not by being used as a film. And up to the present, in our passion for inventing educational lenses that shall cast their image on the brain, we seem to be creating consumers rather than in producing creators.

Fortunately, Mr. Lubschez wrote his book before the Blue Law Charger was snorting on our sinful horizon, with Wilbur Crafts astride in all the shining splendor of immaculate virtue. Speaking of the dreadful, dreadful effect of the movies, Mr. Crafts said (to quote a press report) in reference to one of our cinema celebrities, characterized by the apostle of sweetness and light as "the mother of all the vamps." Why, said he, "that vampire woman seduced a banker. Later in the play she seduced two young men, and before the play ended she seduced a billionaire. I would rather have my son stand at a bar and drink two glasses of beer than have him see that vampire woman. He may get over the beer in a week, but he could not forget that vampire woman until he was eighty years old."

The historian, however, unlike the rest of us who gleefully pay our eighty-five cents to see Charlie, has sure sanctuary from Sir Wilbur de la Vertu Veritable, parbleu, for he needs but to recite the fact that in 1889, it was the Reverend Dr. Hannibal Goodwin who hit upon the idea of using the celluloid film, without which there would be no movie, and no avalanche of sin upon us. Indeed, it is very plainly up to Mr. Crafts to explain the Reverend Goodwin. Mr Lubschez has explained everything else.—C. H. W.

News Notes

ENGLISH newspapers seem to reflect the opinion that the British Government allowed the subsidy on houses to be withdrawn as a means of effecting a drop in the cost of building materials, the prices of which rose as subsidies were increased. Also, it appears that the resignation of Mr. Stephen Easton as Director of Production in Housing, as a protest against the Guild contracts, was the forerunner of a powerful movement to compel the Ministry of Health to revise the Guild contracts. The Guildsmen point out that in reality the revision is asked for in order to make the houses they are building cost as much as the prices asked by private builders. Up to the present the Guild contracts have not been revised, a Daily News representative writing that the request for their revision is inspired by the National Federation of Master Builders.

APPROVING the present Competition Code the San Francisco Chapter formally adopted the resolution "that in the opinion of this Chapter, the present attitude of the Institute toward competitions should be maintained," and that "where competitions are found to be a necessity there should be no tendency on the part of the Institute to lower the safeguards now established."

BIRMINGHAM, England, one of the first cities to impose restrictions on "luxury building," has now taken off the ban because of the increasing unemployment in the building trades.

POSTPONEMENT of the dedication of the Lincoln Memorial at Washington is announced because of the fact, referred to early last year in these columns, that the settling of the approaches has not yet ceased. These were not carried down to bedrock, as were the foundations of the memorial itself, the engineers having reckoned that it would be far cheaper to let the approaches settle and then to join them permanently to the main structure. From nine to twenty-four years were allowed for full settlement.

EXTENSION of its evening courses in building construction to include mechanics and plan reading is announced by City College at New York City. The classes are designed for the employees in the offices of architects and contractors.

ACCUSATIONS that the English Building Trades Guilds, with their schemes for whole-time payment of workers, irrespective of weather or other conditions, were encouraging "convalescent homes," seem fairly to be answered by the quarterly report of the Manchester Guild, wherein it is shown that payments for lost time amounted to but one per cent of the total paid in wages during the period.

RESIDENTIAL quarters for government officials are to be built by the Government of Bengal, the occupants to pay one-tenth of their salaries as rental.

RELATIONS between the architect and the decorator, in New York City, are to be discussed by a committee of three from the New York Chapter, Messrs. Embury, Chairman, Shreve, and Ewing, with a committee representing the Interior Decorators.

MINNESOTA Chapter has voted to offer the services of the Chapter at a fee of six per cent, which includes architectural, engineering, and mechanical service as well as superintendence, to the Board of Education of Minneapolis. A Committee of five, Messrs. Chapman, Whitney, Haxby, Brown, and Downs, was appointed to present the above offer to the Board of Education and report back to the Chapter Executive Committee.

PLANS of the Idaho Society of Architects for combating the free plan service of the lumber companies in Idaho were outlined to the Oregon Chapter at its last meeting by Mr. H. Newton Thornton of Idaho, the Chapter voting its hearty approval of the plan which also embraces a campaign of public information designed to tell the people what an architect can offer.

CHAPTERS of the Institute are beginning to respond to the suggestion of the Oregon Chapter that lantern slides be prepared, devoted to local archtectural material, and deposited with the Institute at Washington, so that they may be available at small cost for lectures.

REPORTING on the project for creating a National Department for Public Works, Mr. M. O. Leighton, the engineer in charge of the National Public Works Department Association states that the Association ceased on January 1 last, for lack of funds. He expresses the opinion that the passage of the Smoot-Reavis Joint Resolution, in the House, providing a joint committee to study methods of reorganization in the departments will facilitate final action on a Public Works Department.

HIGH BRIDGE, threatened with demolition by the authorities of New York City, will be conserved, as a result of the activities of committees from the New York Chapter of the Institute and the American Society of Civil Engineers. The Chapter committee was com-

posed of Messrs. Henry Bacon, Arnold Brunner and Ernest Flagg.

PUBLIC INFORMATION is the subject of a second circular letter sent to the Secretaries of all Chapters, and reminding them that a thorough and willing cooperation is required if results are to be secured. A number of Chapters have taken the matter up in earnest, but many Chapters have not yet replied to the first circular letter addressed to them some time ago. The Secretary of the Committee appends to his present letter a very detailed outline of suggestions to be used in preparing material for dissemination in the public press and elsewhere. This work has now been presented in the most carefully studied form ever presented for the condiseration of the members of the Institute, and it is quite plainly "up to them," if they wish it carried through.

"YOU GET $25.00 profit on every $100.00 sale made to your customer with no effort on your part" reads a circular sent out by a lighting fixture firm in Philadelphia, and ceived by a member of the Institute, who reports that he has been approached in many different ways during years of experience but "never like this."

MR. ROBERT O. DERRICK, Architect, formerly with Murphy & Dana, Architects, New York City, has been admitted, as a partner, to the firm of Brown, Preston & Derrick, Architects and Engineers, 406-407 Empire Building, Detroit, Michigan.

GRADUATED in architecture from Rose Polytechnic Institute in 1912, Mr. Oliver Reagan, winner of the Le Brun Traveling Scholarship and whose drawings are illustrated in this issue, worked in offices in Louisville, Kentucky and Columbus, Ohio, coming to the office of H. Van Buren Magonigle in New York City in 1914. He continued his studies in that office and in the Corbett and Columbia ateliers, with three years in the A. E. F. Air Service.

LAWS permitting the establishment of zoning regulalations in the cities and towns of Connecticut are advocated by the Connecticut Chapter, which has instructed its Legislative Committee to cooperate with others to secure the passage of the necessary legislation.

SYMPATHIZING with the project advanced by State Architect Arthur Peabody for the establishment of a School of Architecture at the University of Wisconsin, the Wisconsin Chapter has voted that it is "heartily and emphatically in favor of founding" the proposed school."

MR. JOHN W. SIMPSON, President of the R. I. B. A., in addressing the Manchester Society of Architects recently, remarked, according to the *Manchester Guardian*, that the Institute was already the envy and admiration of architects in other parts of the world. There was, however, still great need for consolidation, and a scheme was in course of preparation. So far as registration of architects went, the Institute was determined to preserve its standing and that of its allied societies. Another point to which it steered was decentralisation but with the intention of maintaining a common policy such as was desired by the various societies.

Architects were blind enough to imagine they could manage their own affairs best; they were, in fact, sick to death of being governed, and being governed, moreover, by the interference of officials. The moral was that they as a profession needed political power. A scheme had just been completed for a professional defence union, and he hoped to see such a union powerfully in existence.

Obituary

Oswald Speir.

Quietly, steadily, thoroughly, and with that conscientious devotion known only to the artist who seeks after truth, Oswald Speir added no inconsiderable mite to the advancement of American architecture. If he early forsook the profession itself, it was perhaps because he saw an almost unploughed field inviting cultivation by someone willing to forego the plaudits of popularity in order to achieve an inconspicuous but necessary work. There can be no doubt of his affection for building, for it must have inspired him to give to the development of the elements of the American architectural revival, the best years of his life. Many architects will attest not only his generous cooperation, but his wide knowledge of the material in which he believed so wholly. His influence is visible from Madison Square Garden in New York City, to innumerable buildings along the Pacific Coast.

Mr. Speir was born in New Orleans in 1864 and died suddenly on February 2, 1921. Except for one year spent in the study of architecture, his whole time had been given to the terra cotta industry. He was secretary of the National Terra Cotta Association at the time of his death, an event which was surely hastened by the untiring effort he had put forth in the discharge of duties to which he steadfastly refused to set any limit. Architecture is the poorer by his untimely death and the profession has lost a well beloved friend.

Henry Thomas Hare

Henry Thomas Hare, Past-President R. I. B. A., died at his residence, Farnham Common, on January 12. He was about sixty years of age, a native of Scarborough, and was educated privately at Sheffield and Harrogate, serving his articles in 1876 and subsequently studying at the Ecole des Beaux Arts. He was the Ashpitel Prizeman of 1886 and became an Associate of the R. I. B. A. in 1887. He became a Fellow in 1898 was subsequently Vice-President, 1904–1908; Hon. Sec., 1909–1913; President, 1917–1919.

"During his long and distinguished career," says the *Architects' Journal*, "he was responsible for the design of a considerable amount of work, one of his earliest buildings being the Town Hall at Oxford. His most ambitious and perhaps most familiar work in London is the United Kingdom Provident Institution in the Strand, opposite the Church of St. Clement Danes. The County Buildings, Stafford, and the Town Hall, Henley, are among his better known buildings of civic character, while in the collegiate branch of architecture, Westminster College, Cambridge and University College of North Wales, Bangor, stand to his credit. There can be no doubt, however, that he excelled most in the planning of libraries, and it is by this work that he will be chiefly remembered."

Mr Hare's practice will be carried on by his partner under the title of Henry T. Hare and Bertram Lisle.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*
LEROY E. KERN, *Assistant*

In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vocations and avocations.

Committee Activities

Nomenclature for Welded Pipe.—The Executive Committee and Advisory Board of the National Pipe and Supplies Association at its meeting in New York on November 11th adopted the following resolutions:

Whereas, the distributors of Pipe for many years used terms to designate the various types and makes of Pipe that have not been truly descriptive of same, and

Whereas, it is the desire of this Association to cooperate in every way with the manufacturers in the development of trade practices and customs of accepted merit, and which will be fair and intelligible to the manufacturer, distributor and public alike,

IT IS HEREBY RESOLVED by the officers and members of the Executive Committee and Advisory Board of the National Pipe and Supplies Association in their Fall meeting, held in New York City on Thursday, November 11th, that it is their judgment that the terms employed by the American Society for Testing Materials in differentiating between Iron and Steel Pipe, viz: (a) *Welded Wrought Iron Pipe*, (b) *Welded Steel Pipe*, should be accepted and adhered to by the distributors of both Iron and Steel Pipe, this being in the interest of the manufacturers of the Pipe, those who distribute it and those who use it, each being entitled to know clearly and without doubt the make and quality of the Pipe involved in the transaction.

The nomenclature for wrought iron and steel pipe which has become standard through the terminology used in the standard specifications for pipe prepared by Committees A-1 and A-2 of the American Society for Testing Materials and adopted by the society is as follows: The term welded pipe is the generic term descriptive of both wrought iron and steel pipe. The term welded wrought iron pipe describes the product heretofore generally specified as "*genuine*" wrought iron pipe. The term welded steel pipe describes steel pipe.

The necessity of using the term *genuine* wrought iron pipe arose from a practice followed by dealers in pipe and finally expressed in the following rule adopted some years ago by the Central Supply Association: "Wrought iron pipe is a term used to distinguish wrought from cast pipe. It is construed to mean merchant pipe and is generally made from soft steel. Persons desiring to obtain pipe made from puddled iron must designate genuine wrought iron pipe, for which an extra charge is made." This rule has been printed in the hand-books and catalogues of many of the jobbers and distributors of pipe and fittings.

The action taken by the Executive Committee and Advisory Board of the National Pipe and Supplies Association together with the accurately descriptive terminology employed in the Standard Pipe Specifications of the A. S. T. M. makes it proper for architects and engineers to use the English language correctly in writing their specifications, and to do away with superfluous adjectives.

The Committee on Structural Service recommends that the word *genuine* be abandoned and when wrought iron pipe is desired that it be specified as "welded wrought iron pipe," and when steel pipe is desired it be specified as "welded steel pipe." If this distinguishing terminology is employed in the specification there should be no confusion and the consumer has solid ground upon which to base a demand for delivery of the material he wants.

Abstracts

It is the purpose of the Structural Service Committee and THE JOURNAL *jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Measurement of Reflection Factors. (51).—Scientific Paper of the Bureau of Standards No. 391. "Measurement of Diffuse Reflection Factors, and a New Absolute Reflectometer, by A. H. Taylor, Associate Physicist.

In the practical application of light and illumination it is often desirable to determine the reflection factors of various surfaces. In the design of a lighting installation a knowledge of the reflection factors of the walls and ceilings enables the illuminating engineer, with the aid of prepared tables, to estimate the size and number of lamps which will be required to produce the desired illumination. The determination of reflection factors with precision is one of the most difficult feats in photometry.

The paper describes the nature of reflection, earlier reflectometers, the new absolute reflectometer, the theory of reflectometer, experimental results, effect of specular reflection from test surfaces, precautions in use of reflectometer. The most important points are summarized and a bibliography of works on the subject is included.

It is stated that the instrument described should find a large field of usefulness in photometry and illuminating engineering in that it furnishes a method of measuring the reflection factors of surfaces in situ. Apparently no other instrument has been proposed for this purpose which is accurate and portable. It can be adapted for use with any good type of portable photometer.

Physical Properties of Woods. (19a)—The U. S. Department of Agriculture, Forest Products Laboratory, in cooperation with the University of Wisconsin, Madison, have recently conducted an exhaustive investigation of the mechanical and physical properties of a large number of different woods with especial reference to their suitability for use in aircraft construction. A description of these

investigations and the results and conclusions reached has been published in a 149 page booklet entitled, "Aircraft Design Data." Note No. 12. Wood in Aircraft Construction.

The fact that the investigations were conducted primarily with regard to aircraft construction does not detract from their value to architects but owing to the fact that properties of woods not considered in the usual commercial grading rules were investigated and reported upon actually increases their value. The commercial grading rules in general have to do only with certain defined defects and do not take into account the quality of the wood itself. Two boards may be both of the same commercial grade and yet one may be dense, heavy and strong and the other light and weak.

The following is a partial list of the subjects which will be found to be of especial interest in connection with wood for general construction work or finish: Mechanical and Physical properties; variability in the strength of wood; defects affecting strength; storage and kiln drying; veneer and ply wood; defects due to improper drying; glues and gluing; tables of compressive tensile and shearing strengths and hardness, etc.

A short statement or description is given of eighty-five species of woods, and the following typical examples indicate the character of the information given.

"*Eastern white pine.*—Tests today show eastern white pine somewhat below spruce in hardness and rather low in shock-resisting ability. It, however, runs quite uniform in its strength properties, is very easily kiln dried without damage, works well, stays in place well, and is recommended for aircraft construction as a substitute for spruce in spruce sizes."

"*Basswood.*—Basswood is light in weight and low in practically all its strength properties. It is one of the best species to receive nails without splitting and is used extensively for webs, veneer cores, and similar work."

Turpentine. (25a)—(U. S. Department of Agriculture Bulletin No. 898. "Turpentine, Its Sources, Properties, Uses, Transportation and Marketing with Recommended Specifications," by F. P. Veitch and V. E. Grotlisch.)

Sources.—Gum turpentine, known also as oil of turpentine, spirits of turpentine, or "turps," is a light volatile, oil obtained from various species of the pine tree. Approximately 75 per cent of the world's supply of gum turpentine is made in the United States. By far the greater part of this is obtained from the Southern longleaf yellow pine. Wood turpentine, made by distilling with steam or destructively distilling resinous stumps and dead timber, is gradually becoming important in this country. At present somewhat less than 10 per cent of the total production of turpentine is wood turpentine.

Manufacture.—Gum turpentine is made by distilling, in the presence of a small quantity of water, the oleoresin or gum obtained by scarifying or "chipping" the living tree. The equipment used for distilling the turpentine from the gum or resin is simple and has not been materially improved in the past 50 or 60 years. The gum is placed in a still containing a small percentage of water, the presence of which lowers the temperature at which the turpentine will distill. At the beginning of the operation the distillate consists of about 45 per cent of turpentine and 55 per cent of water. When nearly all the water originally present has been distilled over, a small stream of water is allowed to flow into the boiling gum in the still through an opening in the still head. Usually the mixture of turpentine and water is received in an openheaded barrel. The turpentine being lighter than the water, rises to the top and is run off through a pipe into another barrel from which it is either pumped to a storage tank or bailed into barrels, ready for shipment to the market.

Chemical Nature and Properties.—Freshly distilled gum spirits of turpentine consists of several similar and closely related compounds known as terpenes, together with small and varying quantities of oxidized derivatives thereof. The empirical formula of the terpenes is $C_{10}H_{16}$ indicating that turpentine consists almost entirely of carbon and hydrogen.

Turpentine combines directly with oxygen, chlorin, bromin, iodin, hydrogen chloride, nitric acid, sulphuric acid, and many other chemically active substances. On standing for some time in a partially filled container, especially when exposed to the light, or on exposure to the air for a shorter period in the form of a thin film, turpentine absorbs oxygen from the air (becomes oxidized). At the same time small quantities of hydrogen peroxid are liberated. As a result of the absorption of oxygen the turpentine becomes more viscuos and oily and turns yellow, a solid white deposit often forming at the bottom of the bottle. The odor becomes sharp and disagreeable, the specific gravity, the refractive index, and the boiling point are raised, and the percentage distilling up to certain limits becomes less. Small quantities of acetic and other acids are formed in the turpentine.

Spirits of turpentine is believed to owe its superiority as a paint thinner to its property of absorbing oxygen from the air, the drying of paint being due to the absorption of oxygen from the air by the linseed or other drying oil, forming a hard insoluble film of linoxyn. It is said that turpentine acts as an oxygen carrier, transferring oxygen from the air to the linseed oil, and finally adding to the paint film the non-volatile residue left after evaporation, which also acts like a drying oil.

Uses of Turpentine.—The principal use of turpentine is for thinning paints and varnishes, approximately 85 per cent of this country's consumption being employed for this purpose. About 45 per cent is used by the manufacturers of these products, and the other 40 per cent by painters in mixing and thinning paints and varnished at the time of application. Some 5 per cent of the domestic consumption is used for medicinal purposes. About 3 per cent is used in the manufacture of various kinds of polishes.

Transportation of Turpentine.—The greater portion of the turpentine is shipped from the South Atlantic ports in wooden barrels holding from 50 to 52 gallons. Steel drums replace barrels to only a slight extent either for domestic or foreign shipments.

Grades.—The grade of turpentine is determined chiefly by the color, which varies from almost colorless to a decided yellow, depending on the age of the gum from which the turpentine was made, the season of the year when the gum was collected, the care shown in its distillation, its

age, and the amount of exposure to light or air undergone after distillation.

Four merchantable grades of turpentine, known as "water-white," "standard," "one shade off," and "two shades off," are recognized on the primary naval stores markets. "Standard" is the basis for price quotations.

Water white. The color of a column 150 mm, in depth shall match a No. 1 yellow Lovibond tintometer glass.

Standard. The color of a column 50 mm. in depth shall match a No. 1 yellow Lovibond tintometer glass.

One shade off. The color of a column 25 mm. in depth shall match a No. 1 yellow Lovibond tintometer glass.

Two shades off. The color of a column 15 mm. in depth shall match a No. 1 yellow Lovibond tintometer glass.

Effect of Storage.—No marked change in the composition and properties of turpentine occurs when it is stored in completely filled tanks or in filled barrels for as long as from 12 to 18 months. When stored for some time in partially filled iron tanks, however, it has a tendency to become oxidized and changed in composition, which causes it to thicken, resulting in a higher specific gravity and boiling point, with corresponding lower percentages distilling below any usually designated temperature.

The specifications of the Government, the railroads, the American Society for Testing Materials, and a majority of the large users of turpentine require that at least 90 per cent shall distill below 170 degrees C.

Adulteration.—A wide difference exists between the price of turpentine and that of the light oils, such as benzine, kerosene, "varnish makers' and painters' naphtha," and "mineral spirits," derived from crude petroleum and benzol (also sometimes called benzene, which is not the same as benzine), xylol, and so-called solvent or coal-tar naphtha, derived from coal tar. These oils, which usually are comparatively cheap, are often used to adulterate the more expensive turpentine.

From 10 to 20 per cent of the samples purchased by the Bureau of Chemistry at different times during recent years from retail paint, hardware, and general stores have been found adulterated. Some of this was done by unscrupulous wholesalers who furnished the turpentine to the dealers, and some by dishonest retail dealers. Under present conditions, it is not always possible to determine where the fault lies.

Simple Tests for Adulteration.—In the case of fresh turpentine which has not been scorched in making, become oxidized by standing in a tank, or been contaminated with oxidized turpentine, no testing is needed. Such turpentine will always pass the specified requirements.

When turpentine is adulterated to the extent of 10 per cent or more, a careful observer familiar with turpentine can usually determine the fact by one or more of the following simple tests:

Odor.—The presence of kerosene, gasoline, benzol, or solvent naphtha is usually revealed by its odor. Wood turpentine is best distinguished from gum spirits by its odor. The odors of these materials can not be described; they can be learned only by actual trial and experience. Lack of the characteristic turpentine odor is good ground for a careful test to determine the purity of the sample.

Grease spot.—Pour a little of the suspected turpentine on a piece of white writing paper. If the bulk of the sample evaporates rapidly from the paper, leaving a greasy spot which evaporates very slowly or not at all, the turpentine is probably adulterated with kerosene or heavy solvent naphtha, or contains a large percentage of heavy turpentine which will not distill below 170 degrees C. The odor of the grease spot often determines the nature of the adulterant. Greasy spots around bung or spigot holes of turpentine barrels are also indicative of these adulterants.

Bead.—When a perfectly clean dry bottle is partly filled with turpentine and violently shaken for a moment the bead or foam that forms will immediately pass away if the turpentine is pure and fresh. If the foam persists for 5 seconds or more, the turpentine probably is adulterated or old.

Evaporation test.—Set a 5 inch watch glass near an open window where a gentle air current can blow across it. Carefully place in it 5 cc (a tablespoonful) of the turpentine, so that the glass does not become wet with the turpentine beyond the edge of the surface of the liquid. Then carefully pipette or dip out 2 cc., or about half of it (a scant teaspoonful). Observe the rim of the turpentine film after 3 hours. If the rim is continuous or more or less regular in outline, the turpentine is probably pure. If, however, the rim is made up of a chain of distinct drops or beads, or if the liquid appears to flow back to the center of the glass in distinct streams, it probably is adulterated with mineral oil or is an old turpentine of high specific gravity. The unevaporated residue will also smell of mineral oil if kerosene or any other oil which is less volatile than turpentine has been used as an adulterant.

Needless to state, if all these simple tests are definite, there can be little doubt that the turpentine is adulterated. When these tests are negative, however, it can not be safely assumed that it is not adulterated to a small extent or very carefully to a large extent with a specially prepared turpentine adulterant or substitute.

Sterilization of Water. (29:6)—(Ultra-Violet Rays in Water Purification. Reprint No. 576 from the Public Health Reports of the United States Public Health service). This six page, 5¾" x 9" reprint contains short abstracts of the following articles on the ultra-violet method of water purification:

Ultra-violet rays finish treatment of Henderson (Ky.) water supply; Smith, A. T., Engineering News-Record, vol 79, pp. 1021–1022, 1917. Ultra-violet ray sterilization of water; Parkinson, N. F., Annual Report of the Provincial Board of Health, Ontario, Canada, vol. 33, pp. 156–216, 1914. Ultra-violet rays; their advantages and disadvantages in the purification of drinking water; Spencer, R. R., J. Am. Water Works Assn., vol. 4, pp. 172–182, 1917. The use of ultra-violet rays in sterilizing water; Am. City, vol. 17, pp. 239–241, 1917. Ultra-violet ray sterilization of water; Dallyn, F. A., and Parkinson, N. F., Annual Report of the Provincial Board of Health, Ontario, Canada, 1914; Can. Engr., vol. 29, pp. 686–692, 1912. The bactericidal action of ultra-violet rays; De Voogt, J. G., Delft, Z. Hyg., vol. 81, pp. 62–68, 1916. Development of ultra-violet water disinfection; Anon., Eng. News, vol. 74, pp. 634–636, 1915. Ultra-violet rays and their application for sterilization of water; Von Recklinghausen,

M., J. Frank, Inst., vol. 178, pp. 681–704, 1914; J. Am. Water Works Assn., vol. 1. pp. 565–588; Chemical Abstracts, vol. 8, p. 3830, Germ-destroying power of ultra-violet rays applied to sterilization of water and disinfection of trade packages in breweries; Moufang, E. Kirn. a.d. Nahe. Allgem. Z. Bierbrau. Malzfab., vol. 43, pp. 151–155, 1915, A method for drawing off liquid in a thin layer in connection with sterilization by ultra-violet rays; Billon-Daguerre, Compt. rend. Ac. d. Sc., vol. 161, pp. 18–20, 1915, Water sterilization by ultra-violet rays; Seager, J. A., Municipal Engr., vol 45, pp. 415–418, Water treatment by the aid of ultra-violet rays; Schwartz, L., and Aumann, J. Gasbel, vol. 56, pp. 520–522; cf. Chemical Abstracts, vol. 7, p. 1069, The sterilization of water by the aid of ultra-violet rays with a mercury-vapor lamp; Ebert, F. A., Gesundh. Ing., vol. 37, pp. 170–171. The sterilization of water with ultra-violet rays; Silbermann, A., Univer. Bern. Z. Hyg., vol. 77, pp. 189–216. Sterilization of water by ultra-violet rays of the mercury-vapor quartz lamp; Von Recklinghausen, M., Proc. Am. Inst. Elec. Eng., vol. 33, p. 1048, Sterilization of water by ultra-violet rays of the mercury-vapor quartz lamp; Von Recklinghausen, M. Discussion. Proc. Am. Inst. Elec. Eng., vol. 33, p. 1906, 1914, Violet-ray sterilization for Niagara Falls filters; Anon., Eng. Record, vol. 69, p. 701, Purification of water by ultra-violet rays; Von Recklinghausen, M., J. Am. Water Works Association, vol. 1, pp. 565–588; ch. Chemical Abstracts, vol. 8, p. 2847.

Placing Concrete. (4b2)—(Technologic Paper of the Bureau of Standards No. 175. "Pouring and Pressure Tests of Concrete" by W. A. Slater, Engineer Physicist and A. T. Goldbeck engineer of tests.) The object of the pouring tests was to determine to what extent a satisfactory job of concreting could be secured under conditions likely to exist in field work during the construction of concrete ships, that is, in pouring vertical slabs four inches thick and containing a mass of reinforcement and using concrete of a consistency so dry that when cured it would give a high strength.

The concrete was proportioned by volume, using one part of a standard portland cement, two-thirds of Potomac River sand, and one and one-third parts of gravel. The gravel was graded in size from one-fourth to one-half inch. The amount of water used in mixing was 12.5 per cent of the combined weight of the dry materials. The form was vigorously pounded with hand hammers throughout the pouring. Air bubbles were released by the pounding and rose to the surface of the concrete. The rising of air bubbles continued for a considerable length of time, and had not entirely stopped when pouring was completed and the pounding was discontinued.

The test indicated that with gravel aggregate used it was practical to obtain a smooth dense surface, in spite of the narrow and constricted space between the forms and the obstruction of the reinforcement. The quality of concrete obtained by pouring into forms which were well pounded during the pouring was quite uniform. The maximum loads and computed stressses obtained in flexure tests of shallow beams made from the pouring test specimens were reasonably consistent. A working stress of 1500 pounds per square inch in flexural compressure, provides an ample factor of safety against compression failure with concrete of the quality used in these tests.

Measurements of the pressure of concrete against forms were made during the pouring of a large reinforced concrete test specimen. A concrete, one part cement, two-thirds part sand and one and one-third part gravel, as in the pouring test, was used. Measurements were taken at a number of positions on the specimen during the filling of the form.

As a result of this test it was found that; (a) The maximum pressure against the forms during pouring of concrete was equivalent to that of a liquid weighing about 124 pounds per cubic foot. (b) The maximum pressure was that due to the head of concrete existing at the end of about 40 minutes. After that time the pressure gradually decreased in spite of increasing head of concrete.

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